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PRINCIPLES OF ACCOUNTING

ADVANCED

Fifth Edition

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H. A. Finney, Editor

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Preface

In the preparation of this edition of *Principles of Accounting, Advanced,* we have sought and received, as in the past, the generous counsel of many teachers who have used the text in previous editions. For this co-operation, we are sincerely grateful.

The content coverage in this edition parallels closely that of the immediately preceding edition. However, the chapter dealing with the allotment of financial interests to the participants in consolidations and mergers (Chapter 28 of the fourth edition) has been omitted; the essential accounting material therein now appears in the *Intermediate* volume.

On the other hand, the chapter on public accounts, which was discontinued in the fourth edition, has been restored, with revisions to bring it up to date. This chapter was restored in compliance with numerous requests.

All of the chapters have been revised, the extent of the revision having been influenced by considerations of clarity, of changes in the relative importance of topics, and of recent developments in accounting thought.

As in the fourth edition, ten chapters are devoted to the important subject of parent and subsidiary accounting and consolidated statements. These chapters have been almost completely rewritten. In previous editions, several of the first chapters dealt exclusively with the consolidated balance sheet; subsequent chapters were devoted to the consolidated income and retained earnings statements. In this edition, the first of the ten chapters deals with the consolidated balance sheet exclusively; consolidated income and retained earnings statements are introduced in the second chapter, and thereafter the three statements are dealt with

concurrently. We believe that this new organization of the material is a significant improvement.

Both the cost method and the equity method of parent company accounting for its investments in subsidiaries are illustrated and evaluated; however, in contrast to preceding editions, emphasis is placed on the cost method.

The material dealing with affiliation structures, particularly reciprocal and circuit affiliations, has been considerably abridged.

Matters related to consolidated statements recently have received a great deal of attention from teachers and practicing accountants, with the consequent publication of pronouncements by the American Accounting Association and the American Institute of Certified Public Accountants, the most recent being the Institute's *Accounting Research Bulletin No. 51.* We believe that this edition is compatible with these authoritative expressions of opinion, and that it is completely up to date.

Assignment material has again been tailor-made to be completely applicable to, and to cover adequately, the subject matter of each chapter. There is a wide assortment of short and long, easy and difficult, problems. The workbook accompanying the text provides an additional source of assignment material, in objective form, for use as class exercises or homework.

Accounting research bulletins of the American Institute of Certified Public Accountants are copyrighted by the Institute. Quotations in this text are by its permission.

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Herbert E. Miller

Contents

ELEVEN

Realization and Liquidation Reports, 193

TWELVE

Compound Interest and Annuities—Fundamentals, 210

THIRTEEN

Compound Interest and Annuities—Accounting Applications, 232

CHAPTER ONE

Partnerships

Organization

Definitions. "A partnership," as defined by the Uniform Partnership Act, "is an association of two or more persons to carry on, as co-owners, a business for profit."

In a limited partnership, the limited partners have no personal liability to creditors, but they must maintain their investments at the amounts agreed upon. There must be at least one general partner who is liable to creditors for debts which cannot be paid from the firm assets. Limited partnerships are not permissible in some states.

Articles of partnership. The partnership relation is based on a contract between the partners. This contract may be either express or implied.

If two or more persons actually engage in business together as co-owners without making an express agreement, orally or in writing, the law implies a contract, and a partnership exists. It is advisable, however, that the contract be reduced to writing and signed by the partners, so that disputes may be avoided as far as possible. It is desirable that the articles of partnership contain express agreements on the following matters:

The names of the partners, and the name of the partnership.
The date on which the partnership contract takes effect.
The nature and place of business.

The capital to be contributed by each partner; any interest charges to be made for failure to contribute the agreed amounts; and the treatment (as capital or loan) of any contributions in excess of the agreed amounts. If assets other than cash are contributed, it is advisable to prepare a schedule listing the assets and showing the agreed values at which they are accepted as capital investments.

Any division of authority among the partners, if such division of authority is desired. Such an agreement is binding upon the partners but not upon outsiders without notice, since they are entitled to assume that each partner has the right to bind the partnership.

The dates on which net income or loss is to be determined and the method of making distributions thereof.

The drawings or salaries to be allowed.

The length of time the partnership is to continue, and an agreement concerning the method of liquidating the partnership at the termination of the agreed time. It is also advisable to include an agreement covering the contingency of a partner's death. This agreement should stipulate when and how the deceased partner's interest in the capital should be computed and paid to his estate, and whether any allowance should be made for goodwill. Similar provisions should be made with respect to a partner's retirement.

Partners' accounts. A single account (the capital account) with each partner may be sufficient; however, other accounts may be desirable:

Drawing accounts. Drawings may be charged to a drawing account. However, partners sometimes agree that only those drawings that are not in excess of agreed amounts shall be charged to the drawing accounts, and that drawings in excess of such agreed amounts shall be charged to the capital accounts.

Drawing accounts normally are closed to the capital accounts at the end of the period. If statements are prepared at interim dates, the balance sheet may show only the net amount of the balances in each partner's capital and drawing accounts.

Loan accounts. A loan made by a partner to the partnership is generally payable, in the event of liquidation, before payments are made on the partner's capital equity. Therefore, partners' capitals and loans should be clearly distinguished in the accounts and the balance sheet. If the articles of partnership contain no agreement regarding the amount of capital to be contributed by each partner, and if a partner puts additional funds into the busi-

ness, a definite understanding should be reached at the time as to whether the new funds are to be regarded as additional capital or as a loan.

Loans made by a partnership to a partner should be distinguished from ordinary drawings, because loans are presumed to be repayable, whereas drawings are not.

Loans to or from partners should be shown in the balance sheet under a current caption or elsewhere as the terms of the loans indicate.

Opening the books. In opening the books of a partnership, entries are made debiting the assets invested, crediting any liabilities of the partners assumed by the firm, and crediting each partner's capital account with his investment.

The assets should be recorded at fair market values at the date of organization, because any gains or losses resulting from the disposal of the assets are partnership gains or losses, and equity requires that they be computed on the basis of the fair value of the assets at the date when the partnership acquired them.

Division of Net Income or Loss

Bases of division. If the partners make no agreement regarding the method of dividing net income, the law provides that it shall be divided equally, regardless of any differences in capital investments, business ability, or time devoted to the business. The partners may, however, make any agreement they wish. Some of the customary methods of dividing earnings are:

(1) Equally.
(2) On some other agreed fractional basis.
(3) In the capital ratio.
(4) In the average capital ratio.
(5) By allowing interest on capitals and dividing the remainder in an agreed ratio.
(6) By allowing salaries to the partners and dividing the remainder in an agreed ratio.

Any agreement with respect to net income applies also to losses unless there is a specific agreement to the contrary.

Equal division. Assume that the partnership of *A* and *B* earns $11,484, and that the net income is to be divided equally, either because of an agreement to that effect or because of a failure to make any agreement. Each partner will be credited with $5,742.

Other agreed fractional basis. If the net income of $11,484 is to be divided in the ratio of two-fifths to *A* and three-fifths to *B*, the division will be as shown on the following page.

Summary of Division of Net Income

Partner	Ratio	Amount
A	$\frac{2}{5}$	$ 4,593.60
B	$\frac{3}{5}$	6,890.40
Total		$11,484.00

It is sometimes agreed that a portion of the earnings shall be divided in one ratio and the remainder in another. To illustrate, assume that the first $8,000 of net income is to be divided in the ratio of two-fifths to *A* and three-fifths to *B*, and that the net income in excess of $8,000 is to be divided equally. The division should be made as follows:

Summary of Division of Net Income

	A	*B*	Together
First $8,000 in ratio of $\frac{2}{5}$ and $\frac{3}{5}$	$3,200	$4,800	$ 8,000
Remainder equally	1,742	1,742	3,484
Total	$4,942	$6,542	$11,484

Capital ratio. If partners desire to divide their earnings in the capital ratio, they should have a definite agreement as to what capital balances should be used in determining the ratio. Otherwise, disputes may arise if investments and drawings during the period change the capital ratio.

To illustrate, assume that *A* and *B* invested $10,000 and $20,000, respectively, on January 1; that each partner was permitted to draw $200 per month against accruing earnings, to be charged to his drawing account; and that drawings in excess of that amount were to be charged to the capital accounts.

The following accounts show the original investments of the partners, their additional investments, and the drawings in excess of $200 per month.

A, Capital

Feb. 1	100	Jan. 1	10,000
Aug. 1	500	Sept. 1	2,000
Nov. 1	200		

B, Capital

Mar. 1	300	Jan. 1	20,000
Aug. 1	200	July 1	4,000
Sept. 1	300		

The net income for the year was $11,484.

If it was agreed that the earnings were to be divided in the ratio of the capitals at the beginning of the year, the division should be as shown on the following page.

Summary of Division of Net Income

Partner	Opening Capital Balance	Profit and Loss Ratio	Net Income
A	$10,000	⅓	$ 3,828
B	20,000	⅔	7,656
Total			$11,484

If the earnings were to be divided in the ratio of the capitals at the end of the year, the division would be as follows:

Summary of Division of Net Income

Partner	Closing Capital Balance	Profit and Loss Ratio	Net Income
A	$11,200	112/344	$ 3,738.98
B	23,200	232/344	7,745.02
Total			$11,484.00

Average capital ratio. If the capital balances change during the period, neither the capital balances at the beginning of the period nor those at the end represent the partners' capitals used by the business during the period. To be entirely fair, consideration should be given to all changes in each partner's capital during the period, with weightings on a time basis. This may be accomplished by dividing the earnings in the average capital ratio.

When the average capital ratio is used, the partners should have an agreement regarding the amount of drawings which each partner is to be allowed without affecting his capital. These agreed drawings should be charged to the drawing accounts, and any additional drawings should be charged to the capital accounts, because they should affect the computation of the average capital ratio.

The average capital ratio may be computed as follows:

Multiply each new capital account balance (resulting from an investment or a withdrawal chargeable to the capital account in accordance with the partnership agreement) by the number of time units (months or days, as specified by the partnership agreement) the balance remained unchanged.

Find the sum of these products.

Divide the earnings in the ratio of these sums.

In applying the above procedures, observe, first, that the final amount in the Balance column should agree with the ending balance of the capital account, thus proving the accuracy of the various balances; and, second, that the time periods in the Time Unchanged column should add to a full year, thus proving the accuracy of the multipliers. The computation is on page 6.

Computation of Average Capital Ratio

	Date	Debits	Credits	Balance	Time Unchanged	Dollar-Months
A, capital:	Jan. 1		10,000	10,000	1 mo.	10,000
	Feb. 1	100		9,900	6 mos.	59,400
	Aug. 1	500		9,400	1 mo.	9,400
	Sept. 1		2,000	11,400	2 mos.	22,800
	Nov. 1	200		11,200	2 mos.	22,400
	Total				12 mos.	124,000
B, capital:	Jan. 1		20,000	20,000	2 mos.	40,000
	Mar. 1	300		19,700	4 mos.	78,800
	July 1		4,000	23,700	1 mo.	23,700
	Aug. 1	200		23,500	1 mo.	23,500
	Sept. 1	300		23,200	4 mos.	92,800
	Total				12 mos.	258,800

Division of Net Income

	Fraction	Net Income
A	$1240/3828$	$ 3,720
B	$2588/3828$	7,764
Total		$11,484

The preceding computation determines the *ratio* between the average capitals, but it does not determine the average capitals. To compute the average capitals, it would be necessary to divide each of the two balances by 12, thus:

A: $124,000.00 ÷ 12 = $10,333.33, Average capital
B: $258,800.00 ÷ 12 = $21,566.67, Average capital

The division by 12 is useless, however, because all that is required is the *ratio* between the average capitals, not the average capitals themselves. The ratio between $124,000 and $258,800 is the same as the ratio between $10,333.33 and $21,566.67.

In this illustration, all increases and decreases in the capital accounts occurred on the first day of some month. If such changes occur during the month, the partners may agree that the changes shall date as of the first of the month; or that they shall date as of the end of the month; or that entries during the first half of the month shall date as of the first day of the month, and entries during the last half of the month shall date as of the last day of the month. Or the actual number of days may be used.

	Date	Debits	Credits	Balance	Time	Dollar-Days
***X*, capital:**	Jan. 1		5,000	5,000	66 days	330,000
	Mar. 8	600		4,400	150 days	660,000
	Aug. 5	320		4,080	33 days	134,640
	Sept. 7		1,500	5,580	72 days	401,760
	Nov. 18	200		5,380	44 days	236,720
	Total				365 days	1,763,120

Interest on capital. When the net income is divided in the ratio of the capitals at the beginning of the period, the capitals at the end of the period, or the average capitals, the entire net income distribution is based on the capital investments.

Since capital is only one factor in the production of income, it may be desired to distribute only a portion of the earnings in the capital ratio and the remainder in some other ratio. This may be accomplished by:

Allowing interest on the capitals, thus dividing a portion of the earnings in the capital ratio; and

Dividing the remainder of the earnings in some other agreed ratio.

If interest is to be allowed on capitals, the partnership agreement should contain definite provisions concerning the basis of the computation of the interest. It should be noted that a partner cannot claim interest on his capital unless there has been an agreement to that effect, for the law assumes that the investment was made for the purpose of earning net income and not interest. Using the capital accounts of *A* and *B* on page 4 and assuming that earnings, after allowing 6% interest on capitals, are to be divided equally, the following methods of allowing interest may be illustrated:

(1) Each partner is allowed interest for the entire period on the opening balance in his capital account.

Summary of Division of Net Income

	A	*B*	Together
Interest on opening capital balances:			
A—6% of $10,000	$ 600		
B—6% of $20,000		$1,200	
Total interest			$ 1,800
Remainder equally	4,842	4,842	9,684
Total	$5,442	$6,042	$11,484

(2) Each partner is allowed interest for the entire period on the closing balance in his capital account.

Summary of Division of Net Income

	A	*B*	Together
Interest on closing capital balances:			
A—6% of $11,200	$ 672		
B—6% of $23,200		$1,392	
Total interest			$ 2,064
Remainder equally	4,710	4,710	9,420
Total	$5,382	$6,102	$11,484

(3) Each partner is allowed interest for the entire period on his average capital balance. This basis is obviously more equitable than either the opening or the closing balance. The computation of the average capital balances is shown on page 6.

Summary of Division of Net Income

	A	*B*	Together
Interest on average capital balances:			
A—6% of \$10,333.33	\$ 620		
B—6% of \$21,566.67		\$1,294	
Total interest			\$ 1,914
Remainder equally	4,785	4,785	9,570
Total	\$5,405	\$6,079	\$11,484

(4) Interest is computed on each credit and each debit in the capital accounts from the date thereof to the end of the period. This method produces the same results as those obtained by method 3, as shown by the computation of the net interest credits below.

A: Investments—\$10,000 for 12 months	\$ 600.00	
2,000 for 4 months	40.00	\$ 640.00
Drawings charged to capital—		
\$ 100 for 11 months	\$ 5.50	
500 for 5 months	12.50	
200 for 2 months	2.00	20.00
Net credit for interest		\$ 620.00
B: Investments—\$20,000 for 12 months	\$1,200.00	
4,000 for 6 months	120.00	\$1,320.00
Drawings charged to capital—		
\$ 300 for 10 months	\$ 15.00	
200 for 5 months	5.00	
300 for 4 months	6.00	26.00
Net credit for interest		\$1,294.00

It is obvious that, if interest is computed by either of the last three methods illustrated, the partners' interest credits are affected by debits in their capital accounts. Therefore, if either of these methods is used, there should be a definite agreement specifying the withdrawals which should be charged to the capital accounts.

Object of interest on capital. It should be noted that interest on capitals is really a division of a portion of the earnings in the capital ratio, and the object of allowing interest on capital is to make a partial division of the earnings in the capital ratio. Therefore, it should be evident that there is no object in allowing interest on capitals if the remaining earnings are also to be divided in the capital ratio.

Interest on partners' loans contrasted with interest on partners' capitals. The interest allowed on partners' capitals is not an expense of the partnership but is an income-sharing device. Such interest should not be confused with interest on partners' loans. Partners' loans, being either assets or liabilities of the partnership, may be interest-bearing, and the partnership may therefore earn interest income or incur interest expense.

To illustrate the above distinction, the income statement of the partnership of *A* and *B* is presented below. The income-sharing agreement of the partnership states that each partner is to be allowed interest at 5% for the entire period on the opening balance in his capital account, with the remainder of the earnings divided equally. It is assumed that, in addition to his capital investment, *A* has loaned $5,000 to the partnership at 6% interest.

A AND B

Income Statement

For the Year Ended December 31, 1960

Sales			$60,000
Cost of goods sold			40,000
Gross profit on sales			$20,000
Deduct operating expenses			12,000
Net operating income			$ 8,000
Deduct interest expense on partner's loan			300
Net income			$ 7,700
Distributed as follows:			
	A	*B*	Together
Interest on partners' capitals—5%	$ 500	$ 600	$ 1,100
Balance equally	3,300	3,300	6,600
Total	$3,800	$3,900	$ 7,700

Salaries to partners. Partners may agree to make a partial division of the net income in the form of salaries in order to give recognition to the difference in the value of their services. The remaining net income may be divided equally or in any other ratio to which the partners agree.

In conformity with generally accepted accounting principles, accountants regard partners' salaries, like interest on their capitals, as an income-sharing device and not as an expense, and, in the income statement, such salaries should be shown in the income-distribution section, after the net income. This procedure is illustrated in the income statement of the partnership of *X* and *Y* on the following page.

It is assumed that the partnership agreement provides that *X* is allowed a salary of $4,800 and *Y* a salary of $6,000, with the remainder of the earnings divided equally.

X AND Y
Income Statement
For the Year Ended December 31, 1960

Sales			$80,000
Cost of goods sold			50,000
Gross profit on sales			$30,000
Deduct operating expenses			14,000
Net income			$16,000
Distributed as follows:			
	X	*Y*	Together
Salaries	$4,800	$6,000	$10,800
Balance equally	2,600	2,600	5,200
Total	$7,400	$8,600	$16,000

If salaries are paid to partners during the period, they may be charged to partners' salary accounts, just as drawings during the period are charged to drawing accounts. When the books are closed, the income share of each partner includes his salary allowance, and the salary accounts (again, like drawing accounts) are closed to the partners' capital accounts.

Income statements for managerial uses. It is sometimes desirable for management purposes to show partners' salary allowances among the expenses in the income statement. Including partners' salary allowances among the expenses may make the income statement more meaningful if the partners are assigned departmental duties and operating data are classified to show the results of operations departmentally, or if it is desired to compare the results of a partnership's operations with those of a corporation.

Actually, each partner's total "take" would not be affected by the location of the salaries in the income statement. Referring to the preceding case of *X* and *Y*, if the salaries were shown among the expenses, the amount shown as net income would be $5,200, but *X*'s "take" would still be $4,800 plus $2,600 and *Y*'s would still be $6,000 plus $2,600. The statement would not be in accordance with generally accepted accounting principles, but neither *X* nor *Y* would benefit.

It is acceptable in the case of any financial statement, whether it relates to a partnership or a corporation, to reclassify accounting data in any manner that will improve their usefulness to management. However, it should be kept in mind that such statements are for internal uses only and should not be treated as acceptable substitutes for financial statements prepared in accordance with generally accepted accounting principles.

Salaries and drawings. Accountants usually regard partners' salaries as an income-division factor but do not so regard drawings.

Partnership agreements often evidence a lack of appreciation of the importance of a clear indication of intent; as a result, uncertainties and disputes may arise.

According to the Uniform Partnership Act, agreed salaries to partners should be regarded as an income-division factor. The Act also provides that, if the partnership agreement entitles a partner to "draw" a specified amount periodically, the case appears to be arguable with a presumption in favor of treating such amounts as an income-division factor, subject to a contrary showing. Such legal interpretations may be contrary to the partners' intent.

Obviously, it is important that the partnership agreement should definitely state whether or not the partners intend that their "salaries" or "drawings" (particularly drawings of agreed amounts) should be regarded as a partial division of net income.

Assume that, under a partnership agreement leaving something to be desired in the area of precise wording, partner *X* receives $400 per month and partner *Y* $500 per month. If the partners intend that such "salaries" or "specified periodic drawings" be regarded as an income-division factor, the partners' shares in a net income of $16,000 would be as shown in the income statement for the partnership of *X* and *Y* on page 10. Thus, *X*'s share would be $7,400 and *Y*'s share would be $8,600.

But if it is the partners' intent that the salaries or agreed drawings of *X* and *Y* during the year be regarded as other than a partial division of net income, the partners' shares in the $16,000 net income would be:

	X	*Y*	Together
Equal division of net income..................	$8,000	$8,000	$16,000

Obviously, *Y* would prefer to have the periodically withdrawn amounts regarded as an element in the income-sharing computation, whereas *X* would prefer that they be not so regarded.

Hereafter in this text it will be assumed that it is the partners' intent that anything described as "salaries" should be regarded as an element in the income-sharing plan, and that anything described as "drawings" should not be so regarded.

Interest and/or salaries in excess of net income. If the partnership agreement provides for interest on capitals without any stipulation as to what shall be done if the earnings are less than the interest or if the operations result in a loss, the full interest allowance should be deducted from the net income or added to the net loss, and the resulting amount should be assigned to the partners in the ratio used to assign any excess of net income over the interest allowance.

The same rule holds with respect to partners' salaries. The following illustrations dealing with interest on partners' capitals should therefore be understood to apply equally to salaries.

A and *B* have capitals of $10,000 and $20,000, respectively. Their partnership agreement provides that "interest shall be allowed on capitals at 6% per annum, and remaining net income shall be divided equally."

If the net income is $8,000, it should be divided as follows:

	A	*B*	Together
Interest on capitals	$ 600	$1,200	$1,800
Balance divided equally	3,100	3,100	6,200
Division of net income	$3,700	$4,300	$8,000

If the net income is only $1,000, which is less than the interest credits, the division should be made as follows:

		A	*B*	Together
Interest on capitals		$ 600	$1,200	$1,800
Excess of interest allowance over net income—divided equally:				
Net income	$1,000			
Less interest allowance	1,800			
Excess	$ 800	400	400	800
Division of net income		$ 200	$ 800	$1,000

If there is a loss of $1,000, the division should be:

		A	*B*	Together
Interest on capitals		$ 600	$1,200	$1,800
Total of net loss and interest allowance—divided equally:				
Net loss	$1,000			
Add interest allowance	1,800			
Total	$2,800	1,400	1,400	2,800
Division of loss		$ 800	$ 200	$1,000

Compliance with the partnership agreement may result in crediting one partner's capital account although the business operations resulted in a loss. For instance, if the loss was $400, the division should be made as follows:

		A	*B*	Together
Interest on capitals		$ 600	$1,200	$1,800
Total of net loss and interest allowance—divided equally:				
Net loss	$ 400			
Interest allowance	1,800			
Total	$2,200	1,100	1,100	2,200
Division of loss		$ 500 Dr.	$ 100 Cr.	$ 400 Dr.

If the partners wish to avoid distributions of the kind just illustrated, they should make express agreements covering the

contingency of a loss, or of a net income less than the interest. Such an agreement might be worded as follows: "Interest at 6% per annum shall be allowed on capitals, provided that the net income equals or exceeds such interest allowances; and that any remaining net income shall be divided equally. In the event that the net income is less than the interest, such net income as is earned shall be divided in the capital ratio. Any loss shall be divided equally."

Applying this agreement to the illustration with a net income of only $1,000, which was less than the interest, the division should be made in the capital ratio of one-third and two-thirds, or $333.33 to *A* and $666.67 to *B*. In the case of a $1,000 loss, $500 should be charged to each partner.

Bonus to a partner. If one partner manages the business, a special compensation may be allowed to him, in the form of a bonus. The basis of the bonus is usually stated to be "net income." From the standpoint of accounting theory, such a bonus is not an expense, but is a division of income; however, for purposes of the bonus computation the partners may intend that it be regarded as an expense. To avoid ambiguity, bonus agreements should state definitely whether the basis of the bonus is to be the net income shown by the income statement, or the net income minus the bonus.

To illustrate the difficulties which may arise if the agreement does not specifically cover this point, assume that *A* and *B* are partners; that *A* is to be allowed a bonus of 20% of the "net income"; and that remaining earnings are to be divided equally. The Revenue and Expense account shows a credit balance of $5,000.

If the bonus is to be based on the net income shown by the income statement, the distribution will be:

	A	*B*	Together
Bonus to *A*: 20% of $5,000	$1,000		$1,000
Balance equally	2,000	$2,000	4,000
Total	$3,000	$2,000	$5,000

On the other hand, if the bonus is not to be based on the net income of $5,000, but on $5,000 minus the bonus, the computation of the bonus and the distribution of the net income would be:

Let net income = 100%
And bonus = 20%
Then $5,000 = 120% of the amount subject to bonus
$5,000 ÷ 120% = $4,166.67, the amount subject to bonus

	A	*B*	Together
Bonus to *A*: 20% of $4,166.67	$ 833.33		$ 833.33
Balance equally	2,083.33	$2,083.34	4,166.67
Total	$2,916.66	$2,083.34	$5,000.00

Closing entries. After the revenue and expense accounts have been closed to Revenue and Expense, that account is closed by crediting the capital account of each partner with his share of the net income or debiting it with his share of the net loss.

The drawing accounts and partners' salary accounts, if any are found in the ledger, are then closed to the respective capital accounts.

Illustrative closing entries for the partnership of *R* and *S* are submitted below. They are based on the following facts, which show that the several revenue and expense accounts have already been closed to Revenue and Expense.

Summary of income-division agreement:

R is allowed a salary of $5,000.
Interest is allowed on capitals—6% on January 1 balances.
Remainder is divided equally.

Selected account balances:

January 1 balances:	
R, capital	$10,000
S, capital	40,000
December 31 balances:	
Revenue and expense (credit)	20,000
R, salary (debit)	5,000
S, drawings (debit)	4,500

Closing Entries

Revenue and expense	20,000	
R, capital		11,600
S, capital		8,400
To divide the net income of $20,000 according to the income-division agreement.		

	R	*S*	Total
R, salary	$ 5,000		$ 5,000
Interest on capitals	600	$2,400	3,000
Balance equally	6,000	6,000	12,000
Total	$11,600	$8,400	$20,000

R, capital	5,000	
R, salary		5,000
To close the partner's salary account.		
S, capital	4,500	
S, drawings		4,500
To close the partner's drawing account.		

Statement of partners' capitals. The increases and decreases in partners' equities during the period are shown by a statement of partners' capitals. To illustrate the form, assume the facts for the year 1960 shown on the following page.

Partner *A*:		
Capital account:		
Credit balance at beginning of year		$20,000
Additional investments during the year		3,000
Debits for drawings in excess of agreed monthly drawings of $200	$1,500	
Drawing account—debits for agreed monthly drawings	2,400	
Partner *B*:		
Capital account:		
Credit balance at beginning of year		15,000
Additional investments during the year		2,500
Debits for drawings in excess of agreed monthly drawings of $200	1,000	
Drawing account—debits for agreed monthly drawings	2,400	
Revenue and Expense account—credit balance—to be divided equally		8,000

A AND B
Statement of Partners' Capitals
Year Ended December 31, 1960

	A	*B*	Together
Balances, December 31, 1959	$20,000	$15,000	$35,000
Add: Additional investments	3,000	2,500	5,500
Net income	4,000	4,000	8,000
Totals	$27,000	$21,500	$48,500
Deduct withdrawals	3,900	3,400	7,300
Balances, December 31, 1960	$23,100	$18,100	$41,200

Changes in profit and loss ratio. If partners agree to a change in the income-division ratio (usually called the *profit and loss ratio*), it may be desirable, for purposes of equity, to adjust the book values of assets to their replacement or disposal values at the date of the change in the profit and loss ratio.

To illustrate, assume that *A* and *B*, sharing profits and losses equally, decide to change the ratio to 60 per cent for *A* and 40 per cent for *B*. Assume also that, at the date of the change, the firm held securities that were carried at cost, $25,000, but had a market value of $35,000, and that they were later sold for $40,000.

If no adjustment of the carrying value is made at the date of the change in the ratio, the $15,000 gain will be divided as follows:

A: 60% of $15,000	$9,000
B: 40% of $15,000	6,000

But if an adjustment of the carrying value is made, the division of the $15,000 gain will be made as follows:

	A	*B*
Portion of gain developed prior to change in ratio—$10,000, divided 50:50	$5,000	$5,000
Portion of gain developed subsequently—$5,000, divided 60:40	3,000	2,000
Total	$8,000	$7,000

Adjustments of earnings of prior periods. Chapter 4 of the *Intermediate* text contains a discussion of adjustments of corporate earnings of prior periods and their treatment under the clean surplus theory and the current operating concept. Similar considerations would govern the treatment of adjustments of partnership earnings of prior periods. Proponents of the clean surplus theory would presumably, to be consistent, disclose prior-period adjustments in the income statement, whereas the advocates of the current operating concept would show the adjustments in the statement of partners' capitals.

If the profit and loss ratio for the period in which the correction is made differs from the ratio which prevailed in the prior period for which the earnings were misstated, equity would seem to require that the division of the correction be made in the profit and loss ratio of such prior period. If entries for the correction are made directly in the capital accounts, they should be made in the prior-period ratio; if the corrections are included in the income statement, the correction amount should be divided in the prior-period ratio and the remaining net income in the current-period ratio.

While such a procedure is equitable, and therefore theoretically desirable, it may not always be possible. It is possible in such instances as the correction of the inventory at the close of a prior period; it may not be possible in such instances as the correction of the allowance for bad debts, because the amounts of over- or under-provision in several prior periods may not be determinable.

Income taxes. Partners, as individuals, are subject to income taxes on their shares of partnership net income, and partnerships, as business entities, are not subject to income taxes. Therefore, the financial statements of a partnership do not show any charge for income taxes in the income statement or any liability therefor in the balance sheet. Although partners often find it necessary to withdraw funds from the partnership to meet their personal income tax obligations (the amount of which, incidentally, is frequently affected by income from nonpartnership sources), the balance sheet of the partnership does not (and cannot) show such potential cash withdrawals. Since income taxes are, as a general rule, a significant item in the financial affairs of corporations, allowance must be made for this lack of comparability whenever the financial statements of a partnership are being compared with those of a corporation.

CHAPTER TWO

Partnerships (Continued)

Admission of a New Partner

Admission of a partner. When a new partner is admitted, a new partnership is created. The creation of the new partnership automatically dissolves the old one; therefore, the old articles of partnership should be amended or new partnership articles should be drawn up.

It is particularly important that a new profit and loss ratio be definitely agreed upon, because the dissolution of the old partnership cancels the old profit and loss ratio; unless a new agreement is made, the legal rule of equal division in the absence of an agreement would apply—subject to a contrary showing.

Purchase of an interest distinguished from investment. Although persons are sometimes admitted to partnerships, particularly professional firms, without any cash contribution, we are here concerned only with the admission of a partner who pays for a capital interest. Such partnership admissions are of two general classes:

(1) The new partner *purchases* all or part of the interest of one or more old partners and makes his payment to them; no new funds come into the partnership.

(2) The new partner *invests* assets in the partnership; the partnership funds are thus increased.

Purchase of an Interest by Payment to One or More Old Partners

Purchase of an interest by payment to one partner. No partner has a right to sell all or a portion of his interest in the capital of a firm without the consent of the other partners. The right to choose one's associates in a partnership is a fundamental right; if a partner attempts to sell his interest without the consent of the other partners, he dissolves the partnership, and the purchaser does not become a partner. (This is the rule under the common law, which is somewhat modified by the Uniform Partnership Act.) The purchaser obtains only the right to demand a settlement of the affairs of the firm and a payment of whatever interest may remain to him after the assets have been realized and the liabilities paid. Moreover, the partner who sells without consent is liable to his former partners for whatever loss they may sustain as a result of his action.

If the sale is made with mutual consent, a new partnership is formed. As the payment is made by the purchasing partner to the selling partner, the cash or other assets given in payment will not appear on the firm's books.

A purchase of an interest may be made at book value, at more than book value, or at less than book value. All of these conditions are dealt with in the illustrations under the following caption: "Purchase of an interest by payments to more than one partner." The same considerations would apply if the purchase was made from one partner only.

Purchase of an interest by payments to more than one partner. If an incoming partner purchases an interest in the business from more than one partner, there must be an agreement as to the portion of capital to be transferred by each partner. In the following illustrations it is assumed that:

The incoming partner acquires a one-fourth interest in the partnership capital and earnings;

Each of the old partners transfers one-fourth of his capital to the new partner;

Before the admission of the new partner, *D*, the capital accounts and the profit and loss ratio of the old partners were as follows:

	Capitals	Profit and Loss Ratio
A	$15,000	50%
B	10,000	30
C	5,000	20
Total	$30,000	

PURCHASE AT BOOK VALUE. *D* purchases a one-fourth interest in the business for $7,500. The entry to record the admission of *D* is shown below:

A, capital	3,750	
B, capital	2,500	
C, capital	1,250	
D, capital		7,500

The cash should be divided among *A*, *B*, and *C* in amounts equal to the portions of capital transferred by them.

PURCHASE AT MORE THAN BOOK VALUE. Assume that *D* purchases a one-fourth interest in the capital and earnings for $10,000.

Why did *D* pay $10,000 for a one-quarter interest in a partnership that had a total capital of only $30,000?

Perhaps it was because the assets shown by the firm's books were undervalued. In Chapter 1 it was stated that, when a new partnership is organized, the assets should be recorded at fair market values because "any gains or losses resulting from the disposal of the assets are partnership gains or losses, and equity requires that they be computed on the basis of the fair value of the assets at the date when the partnership acquired them." The same criteria of equity prevail when a new partner is admitted to an old firm, because a new firm is organized. In essence, a sale is being made, and going-concern values may not be appropriate.

Or it may be that the old partnership has developed goodwill. If so, the partners may or may not desire to record it before the admission of *D*.

Implied goodwill recognized in the accounts. Since *D* is willing to pay $10,000 for a one-quarter interest in the business, there is an implication that the business is worth $40,000. Assuming that the recorded assets are properly valued, a goodwill of $10,000 is implied. If it is to be placed on the books before the admission of *D*, the entries are as indicated below:

	A	*B*	*C*	*D*	Total
Original capitals	$15,000*	$10,000*	$5,000*		$30,000*
Credits offsetting debit to record goodwill—in profit and loss ratio	5,000*	3,000*	2,000*		10,000*
Totals	$20,000*	$13,000*	$7,000*		$40,000*
Transfers of capital—one-fourth	5,000	3,250	1,750	$10,000*	
Balances after admission of *D*	$15,000*	$ 9,750*	$5,250*	$10,000*	$40,000*

* Credit.

The three old partners should be paid the amounts transferred from their capital accounts.

Implied goodwill not recognized in the accounts. If the goodwill is not to be recognized in the accounts, the entry to record the

admission of D is the same as the entry made when the partnership interest was acquired at book value.

A, capital	3,750	
B, capital	2,500	
C, capital	1,250	
D, capital		7,500

The cash should be divided among the partners as follows:

	A	B	C	Total
For capital transferred	$3,750	$2,500	$1,250	$ 7,500
For gain—in profit and loss ratio of 50%, 30%, 20%	1,250	750	500	2,500
Total	$5,000	$3,250	$1,750	$10,000

The capitals of the four partners are determined as follows:

	A	B	C	D	Total
Original capitals	$15,000*	$10,000*	$5,000*		$30,000*
Transfers of capital—one-fourth	3,750	2,500	1,250	$7,500*	
Balances after admission of D	$11,250*	$ 7,500*	$3,750*	$7,500*	$30,000*

* Credit.

Comparison of the two procedures. Let us refer to the preceding illustration in which D purchased, at more than book value, one-fourth of the capitals of A, B, and C.

The cash payments to the three old partners are the same regardless of whether the implied goodwill is, or is not, recorded.

The capital account balances under the two procedures are stated below:

Partner	Goodwill Recorded	Goodwill Not Recorded
A	$15,000	$11,250
B	9,750	7,500
C	5,250	3,750
D	10,000	7,500
	$40,000	$30,000

Which procedure is preferable— to record the goodwill or not to record it? To answer this question, let us assume that the goodwill is recorded and subsequently* written off. The resulting capital account balances will be the same as those shown in the Goodwill Not Recorded column, provided that:

(*1*) *The new partner's percentage share in the net income at the date of the write-off is the same as his initial percentage share in the capital, and*

* In this illustration, it is assumed that the goodwill is immediately written off, to simplify the illustration by eliminating the irrelevant effects of transactions between the dates of write-on and write-off.

(2) *The portion of the net income going to the old partners at the date of the write-off is shared by them in the same ratio as in the old partnership.*

To demonstrate, three situations are presented. In all of them *D* has a 25% interest in the capital.

Situation A: The assumptions as to profit and loss ratios are stated below:

Partners	Profit and Loss Ratios: Before Admission of *D*	When Goodwill Is Written Off	
A	50%	75% of 50% or	37.5%
B	30	75% of 30% or	22.5
C	20	75% of 20% or	15.0
D			25.0
Total	100%		100.0%

Both of the above-stated conditions are met. *D* has a 25% share in the earnings and the capital, and the old partners' shares in the earnings are in the same ratio as before *D*'s admission to the partnership.

Statement Showing Effect of Write-off of Goodwill

	A	*B*	*C*	*D*	Total
Capital balances resulting from recording goodwill	$15,000	$9,750	$5,250	$10,000	$40,000
Write-off of goodwill—in profit and loss ratio	3,750	2,250	1,500	2,500	10,000
Resulting balances—same as when goodwill is not recorded	$11,250	$7,500	$3,750	$ 7,500	$30,000

Situation B: The assumptions as to profit and loss ratios are stated below:

Partners	Profit and Loss Ratios: Before Admission of *D*	When Goodwill Is Written Off	
A	50%	80% of 50% or	40%
B	30	80% of 30% or	24
C	20	80% of 20% or	16
D			20
Total	100%		100%

The first of the two above-stated conditions is not met: *D* has a 25% interest in the capital, but only a 20% interest in the earnings. The second condition is met: The old partners' shares in the earnings are in the same ratio as before *D*'s admission.

Statement Showing Effect of Write-off of Goodwill

	A	*B*	*C*	*D*	Total
Capital balances resulting from recording goodwill	$15,000	$9,750	$5,250	$10,000	$40,000
Write-off of goodwill—in profit and loss ratio	4,000	2,400	1,600	2,000	10,000
Resulting balances	$11,000	$7,350	$3,650	$ 8,000	$30,000
Balances if goodwill was not recorded	$11,250	$7,500	$3,750	$ 7,500	$30,000

The difference in results is explained as follows: Since *D* has a one-fourth interest in the capital, he has a one-fourth interest in all of the assets, including the $10,000 goodwill. But since he has only a one-fifth interest in earnings, he is charged with only $2,000 when the goodwill is written off. He thus obtains a $500 benefit, with offsetting charges to *A*, *B*, and *C* in their profit and loss ratio.

Situation C: The assumptions as to profit and loss ratios are stated below:

	Profit and Loss Ratios	
Partners	Before Admission of *D*	When Goodwill Is Written Off
A	50%	Not 75% of 50% or 37.5% but 35%
B	30	Not 75% of 30% or 22.5% but 20
C	20	Not 75% of 20% or 15.0% but 20
D		25
Total	100%	100%

The first of the above-stated conditions is met: *D* has a 25% interest in the capital and earnings. The second condition is not met: The old partners' shares in the earnings are not in the same ratio as before *D*'s admission.

Statement Showing Effect of Write-off of Goodwill

	A	*B*	*C*	*D*	Total
Capital balances resulting from recording goodwill	$15,000	$9,750	$5,250	$10,000	$40,000
Write-off of goodwill—in profit and loss ratio	3,500	2,000	2,000	2,500	10,000
Resulting balances	$11,500	$7,750	$3,250	$ 7,500	$30,000
Balances when goodwill was not recorded	$11,250	$7,500	$3,750	$ 7,500	$30,000

The difference in results was caused by the fact that the old partners were credited in one ratio when the goodwill was put on the books and were debited in another ratio when the goodwill was written off.

The fact that, under situations 2 and 3, the ultimate effect of recording the goodwill and subsequently writing it off differs from the effect produced if the goodwill is not recorded does not necessarily mean that the goodwill should not be recorded. The existence and valuation of the goodwill at the date of the admission of *D* might have been objectively determinable (for instance, because of an offer to purchase the business at a price that gave recognition to the goodwill); a subsequent decrease in the value of the goodwill would be a loss during the period after the admission of the new partner, and equity would suggest that a write-down or write-off of the goodwill be made on the basis of the new profit and loss ratio.

PURCHASE AT LESS THAN BOOK VALUE. Assume that *D* purchases a one-fourth interest in the capital and earnings for $6,000. The fact that *D* obtained a one-fourth interest in the capital for $6,000 may indicate that the business is worth only $24,000 instead of the $30,000 shown by the capital accounts of the old partners. If that is the case, some adjustment of the asset and capital accounts would be appropriate. But this is not necessarily so; the old partners may have offered *D* an inducement to join the partnership because they believed that he would be a valuable partner.

Therefore, the admission of *D* may be recorded in either of two ways, depending on the facts.

Adjustment of old partners' asset and capital accounts. If certain assets are overvalued in the accounts and therefore should be written down, the entries are as indicated below:

	A	*B*	*C*	*D*	Total
Original capitals	$15,000*	$10,000*	$5,000*		$30,000*
Asset write-down—in profit and loss ratio	3,000	1,800	1,200		6,000
Adjusted balances	$12,000*	$ 8,200*	$3,800*		$24,000*
Transfers of capital—one-fourth	3,000	2,050	950	$6,000*	
Balances after admission of *D*	$ 9,000*	$ 6,150*	$2,850*	$6,000*	$24,000*

* Credit.

Adjustment of asset accounts not made. If no adjustment of asset values is made, the entry to record the admission of *D* is:

A, capital	3,750	
B, capital	2,500	
C, capital	1,250	
D, capital		7,500

Cash should be divided among the partners as follows:

	A	*B*	*C*	Total
For capitals transferred	$3,750	$2,500	$1,250	$7,500
Less inducement to *D*—in profit and loss ratio	750	450	300	1,500
Net	$3,000	$2,050	$ 950	$6,000

Comparison. The results produced by the two procedures will be the same:

If, although the asset values are not adjusted at the time of the admission of the new partner, they are written down later by the same amounts, or if an equivalent loss is incurred in their disposal, and,

If the two conditions stated in italics on pages 20 and 21 exist, as in this illustration.

This fact can be demonstrated as follows:

	A	*B*	*C*	*D*	Total
Original capitals................	$15,000*	$10,000*	$5,000*		$30,000*
By the second procedure:					
The asset values are not adjusted. The capital transfers are	3,750	2,500	1,250	$7,500*	
And the resulting capitals are..	$11,250*	$ 7,500*	$3,750*	$7,500*	$30,000*
If a $6,000 loss is subsequently recognized, upon either disposal of assets or write-down thereof, the charges to the partners will be:					
In the ratio shown on page 21	(37.5%)	(22.5%)	(15%)	(25%)	
And in the amounts of......	2,250	1,350	900	1,500	6,000
Balances—same as those produced by writing down the assets before the admission of *D*.......	$ 9,000*	$ 6,150*	$2,850*	$6,000*	$24,000*

* Credit.

Investment in a Partnership by Contribution to the Firm's Capital

Investment in a partnership. A new partner may gain admission to the firm by making a contribution to the partnership capital. The assets contributed are in this instance recorded on the firm's books. It is important that assets so contributed be properly valued, because any subsequent loss or gain on the sale of these assets becomes a partnership loss or gain and not a loss or gain of the contributing partner.

To illustrate, assume that *A* and *B* are in partnership, with capitals of $10,000 each. They occupy a store building owned by *C*, and it is decided to take *C* into partnership. *C* is to contribute his store property as his investment, and earnings are to be shared equally. The store property is really worth $13,000, but *C* unwisely allows it to be placed on the books at $10,000 so that his capital will be equal to that of each of the other two partners.

The fact that earnings are to be shared equally does not mean that the capitals must be equal; *C* could have been credited with $13,000, the true value of the property, and still have taken only one-third of the earnings. And he should have been credited with

$13,000, for if the property is placed on the books at $10,000 and is subsequently sold for $13,000, the three partners will share equally in the gain of $3,000.

For similar reasons it may be desirable to adjust the book values of assets on the partnership books before the admission of the new partner.

Goodwill and bonus. When a new partner is admitted, the old partners may be allowed goodwill or a bonus in recognition of the profitable business they have developed.

Goodwill:

If goodwill is to be allowed the old partners, it should be placed on the books before the admission of the new partner, and the credit therefor should be divided between the old partners in their profit and loss ratio.

A bonus:

Instead of setting up a Goodwill account, the old partners may require that part of the capital contributed by the new partner be credited to their accounts. Such a bonus should be credited to the old partners in their profit and loss ratio.

On the other hand, the new partner may be allowed goodwill or a bonus in recognition of a high earnings potential which he is bringing to the business.

Goodwill:

If goodwill is allowed the new partner, the entry for his admission should contain a debit to Goodwill.

A bonus:

A bonus to a new partner is recorded by making transfers from the capital accounts of the old partners to the capital account of the new partner, thus giving the new partner a total capital credit greater than the amount of his investment. Such a bonus should be charged to the old partners in their profit and loss ratio.

C. P. A. examinations have contained problems requiring the determination of an unstated goodwill or bonus allowance to the old or new partners. The goodwill or bonus allowance can be computed if the problem gives information by which the total capital of the new firm, and the incoming partner's share thereof, can be determined.

To illustrate, assume that *A* and *B* have capitals of $10,000 and $20,000, respectively, with a 50:50 profit and loss ratio, and that *C* is to be admitted as a partner by making a contribution to the firm capital.

Goodwill allowed to old partners. Assume that the problem states that C is to invest, and obtain a capital credit of, \$11,000, which is to be one-fourth of the total capital. The total capital, therefore, is to be \$44,000. The capitals of A and B plus C's contribution amount to \$41,000; therefore, there is a goodwill of \$3,000. Since C's capital credit is equal to his contribution, the goodwill is allowed to A and B, by credits of \$1,500 to each.

Bonus allowed to old partners. C is to invest \$14,000, the total capital is to be \$44,000, and C is to have a one-fourth interest therein. Since C invests \$14,000 and receives a capital credit of only \$11,000, A and B will be credited with \$3,000 of C's contribution as a bonus, shared in the profit and loss ratio.

Goodwill allowed to new partner. C is to transfer, at a valuation of \$8,000, the assets of a business he has been conducting. C is to have a one-fourth interest in an agreed capital of \$40,000. Since the capitals of A and B plus C's contribution amount to \$38,000, there is a goodwill of \$2,000. Since C contributes \$8,000 and is credited with \$10,000, he must receive the credit for the goodwill.

Bonus allowed to new partner. C is to invest \$8,000; the agreed capital is to be \$38,000; and C is to have a one-fourth interest therein. The capitals of A and B plus C's contribution amount to \$38,000; therefore, there is no goodwill. But since C invests \$8,000 and receives a capital credit of \$9,500, a \$1,500 bonus is allowed to him; A and B are charged \$750 each.

Retirement or Death of a Partner

Retirement of a partner. When a partner retires, he has a right to be paid the amount of his equity in the business. But the question arises whether his equity is fairly measured by the balance of his capital account. Three classes of adjustments may be necessary to produce a balance in the retiring partner's capital account which is a fair amount for him to demand and receive; such adjustments may

Correct improper computations of net income of prior periods;
Give recognition to the existence of goodwill;
Give recognition to changes in market values.

Net income corrections. Improper provisions for bad debts and depreciation and other asset reductions may have been made during the years of operations. If such operating charges have been insufficient or excessive, the fact becomes significant when one partner is to withdraw. If the charges have been insufficient, a hardship will be worked on the remaining partners unless an adjust-

ment is made; if they have been excessive, an adjustment should be made to avoid working a hardship on the retiring partner. Similar consideration should be given to errors in the amounts of income taken up.

Goodwill. An agreement that goodwill shall be placed on the books in the event of a partner's retirement, and a statement of the method of computing it, may be included in the partnership articles or may be made at the time of the retirement. The general rule is that the goodwill should be divided among the partners in their profit and loss ratio, and this rule governs unless the partners agree to some other division.

Two conflicting views are held regarding the proper method of putting the goodwill on the books. These methods will be illustrated by an assumed case in which *C* is to retire from the firm of *A*, *B*, and *C*, in which the partners share profits equally. A goodwill value of $6,000 has been agreed upon.

First method. Place the entire goodwill on the books, crediting all of the partners in their profit and loss ratio, by the journal entry below:

Goodwill	6,000	
A, capital		2,000
B, capital		2,000
C, capital		2,000
To place on the books the agreed value of the goodwill, crediting the partners therefor in their profit and loss ratio.		

Second method. Place on the books only the share of goodwill to be credited to the retiring partner, as follows:

Goodwill	2,000	
C, capital		2,000
To place on the books *C*'s one-third of the goodwill, which has been valued by agreement at $6,000.		

The second method is the more conservative and conforms to the rule that goodwill should be placed on the books only when it has been paid for. If *A* and *B* are to continue the business, their books will not conform to this rule if a Goodwill account of $6,000 is shown. Only $2,000 was paid for goodwill on the retirement of *C*.

Implied goodwill or bonus. Assume that *A*, *B*, and *C* have capitals of $10,000 each and share profits equally. *C* is to retire and is to be paid $12,000 from partnership assets. The $2,000 excess of the payment to *C* over his capital may be recorded as a bonus or it may be regarded as indicative of the existence of goodwill.

If it is considered a bonus, the entry will be as shown on the following page.

A, capital	1,000	
B, capital	1,000	
C, capital	10,000	
Cash		12,000

If the $2,000 excess payment is set up as goodwill, the entries will be:

Goodwill	2,000	
C, capital		2,000
C, capital	12,000	
Cash		12,000

If it is considered that a goodwill of $2,000 appertains to *C*'s interest, and a similar goodwill to the interests of *A* and *B*, and the total goodwill of $6,000 is to be recorded, the entries will be:

Goodwill	6,000	
A, capital		2,000
B, capital		2,000
C, capital		2,000
C, capital	12,000	
Cash		12,000

If the remaining partners continue to share profits in the same ratio as before, their relative capital interests are not affected by the choice of method. If the $2,000 is regarded as a bonus, chargeable $1,000 each to *A* and *B*, their resulting capitals will be $9,000 each. If a goodwill of $2,000 is placed on the books and subsequently written off, the result will be:

	A Capital	*B* Capital
Balances before *C*'s withdrawal	$10,000	$10,000
Write-off of goodwill	1,000	1,000
Resulting balances	$ 9,000	$ 9,000

If a goodwill of $6,000 is placed on the books and subsequently written off, the effect on the capitals of *A* and *B* is:

	A Capital	*B* Capital
Balances before *C*'s withdrawal	$10,000	$10,000
Credits for goodwill	2,000	2,000
Balances after *C*'s withdrawal	$12,000	$12,000
Write-off of goodwill	3,000	3,000
Resulting balances	$ 9,000	$ 9,000

However, even though the remaining partners share earnings immediately after the withdrawal in the same ratio as before, it cannot be assumed that the choice between the bonus and goodwill treatment is immaterial. If a goodwill is placed on the books and the remaining partners change their profit and loss ratio before the goodwill is written off, the result will not be the same as that produced by regarding the excess payment as a bonus.

Changes in market values. The accounting principles which properly govern the valuation of assets in a going concern may not be the proper principles to apply in valuing the assets of a partnership when one partner is about to retire. For instance, in the computation of the net income of a going concern, it is a conservative practice to value the inventory at cost or market, whichever is lower; but when a partner is about to retire, he is virtually selling his interest in the inventory to the remaining partners, and justice would seem to require that consideration be given to any increase in replacement or realizable value of the merchandise (whichever is the more relevant) that took place before his retirement.

Fixed assets provide another illustration. From the standpoint of a going concern, fluctuations in the market value of fixed assets need not be recorded in the accounts. An increase in market value is an unrealized gain, and a decrease in market value need not be recognized in the accounts if there is no intention to sell the assets and take the loss. But when a partner is retiring, he is in effect selling his interest in the assets to the remaining partner or partners, and equity requires that recognition be given to market values prevailing at the date of sale.

Should the adjustment of asset valuations be for the full amount of the increase or decrease in market value, or for only the retiring partner's profit and loss percentage thereof? A similar question was discussed under the Goodwill caption. However, the problem now to be considered is somewhat different, because conservatism may have more applicability to the asset of goodwill than to assets with more objectively determinable values.

It may be argued that the cost principle requires that recognition be given to only the retiring partner's share of any increase or decrease in market values, because only his share of any increase is an addition to cost to the remaining partners, and only his share of any decrease is a deduction from cost to the remaining partners. For instance, assume that *A*, *B*, and *C*, who share profits equally, have an inventory which cost $10,000 and which the partners agree should be given a valuation of $13,000 for purposes of determining the amount payable to *A* at the date of his retirement. Since the amount paid to *A* will be increased $1,000 because of the increase in the valuation of the inventory, it may be said that the inventory costs the remaining partners $11,000. It may also be contended that increasing the inventory valuation to $13,000, with credits to all the partners, introduces an element of unrealized gain into the accounts.

On the other hand, it may be contended that the cost principle applies to a going concern; that the withdrawal of a partner dis-

solves the old partnership; and that, if a new partnership is formed, the members of the new firm are entitled to capital credits based on the fair market values of the assets at the date of the organization of a new partnership. This is in conformity with the statement made in Chapter 1 (in the section "Opening the books," on page 3) relative to the proper valuation of assets contributed by partners when a new firm is organized. In accordance with this concept, it is immaterial that the inventory cost *B* and *C* $11,000; they are entitled to capital credits in the new firm based on the market value of $13,000 at the date of the retirement of *A* and the organization of the new firm.

The authors believe that either procedure is acceptable accounting, but that the arguments in favor of recognizing the entire amount of the difference between book and market values somewhat outweigh those for recognizing only the retiring partner's percentage thereof, if the business is continued by a new organization with two or more owners.

Settlement with retiring partner. The cash or other assets given to the withdrawing partner should be charged to his account. If he is paid in full, the account will, of course, be closed. In some instances, however, full payment is deferred, either because of the inadequacy of funds, or because an agreement cannot be reached regarding the value of certain assets, such as accounts receivable, and it is decided to postpone payment until the assets have been converted into cash and the losses ascertained.

When the settlement is thus postponed, the capital account of the retiring partner should be closed, because he is no longer a partner; the balance of the capital account should be transferred to a personal account or a note payable account, as the case may be. This account should be given a title which will clearly distinguish it from the trade accounts or notes payable.

If the settlement is postponed pending the realization of doubtful assets, such as accounts receivable, the accounts with these assets should be kept entirely distinct from the accounts with similar assets obtained after the partner's retirement. Otherwise, there may be difficulty in determining whether or not a loss should be charged in part to the former partner.

Death of a partner. If the articles of partnership contain no provisions with respect to the death of a partner, the surviving partners should realize that the partnership has been dissolved and that the estate of the deceased partner is entitled to receive, in due course, the amount of his interest in the firm at the date of his death. Therefore, the surviving partners should immediately take an inventory and close the books, to determine the capital interest of the deceased partner, including his share of the earnings

to the date of his death. As the decedent is no longer a partner, the balance of his capital account should be transferred to a personal account, pending settlement.

The articles of partnership may, however, contain provisions intended to avoid the necessity of taking an inventory and closing the books at the date of death. Thus, the articles may contain an agreement that the net income to the date of death shall be estimated in some manner, instead of being actually computed by taking an inventory and closing the books. The methods of making the estimate may be divided into two general classes:

(1) The net income to the date of death may be estimated on the basis of an average of the earnings for a number of years preceding the year of death. For instance, *A*, *B*, and *C*, sharing profits equally, agreed that, in the event of the death of a partner, the deceased partner's share of earnings from the date of the last closing until the date of death should be estimated by averaging the earnings of the past four years and multiplying this average by the fraction of the year between the date of the last closing and the date of death. *A* died on March 31, 1960, and his share of earnings since the preceding December 31 was estimated as follows:

Year	Net Income
1956	$18,500
1957	17,625
1958	18,346
1959	18,297
Total	$72,768
Average	$18,192
Fraction of year since last closing	¼
Estimated net income for three months	$ 4,548
A's fractional interest	⅓
A's share of estimated net income	$ 1,516

These estimated earnings should be credited to *A* by a journal entry similar to the following:

A's share of estimated net income	1,516	
A, capital		1,516
To credit *A* with his share of the estimated net income for the three months ended March 31, 1960.		

The account called "*A*'s Share of Estimated Net Income" should remain open until the closing of the books on December 31, 1960, when it should be closed to Revenue and Expense as a division of earnings.

(2) The articles may provide that settlement with the deceased partner's estate shall be postponed until the next regular

closing, at which time his account shall be credited with a share of the earnings.

Various methods may be agreed upon for computing the deceased partner's portion of the net income. Since the partnership retained his capital during the full period, he may receive a share of the earnings for the full period. Or his account may be credited with a share of the earnings for the full period minus an allowance for the loss of his services. Or the credit may be for the proper fraction of the period's earnings, plus interest on his capital and on his share of the earnings from the date of death to the date of settlement.

When settlement is thus postponed, the balance of the deceased partner's capital account should nevertheless be transferred to a personal account.

Incorporation of a Partnership

Partners may decide to organize a corporation to take over the business of the partnership. If the partnership books are retained for use by the corporation, the accounting procedure is simple.

To illustrate, assume that *A* and *B* are in partnership, sharing profits and losses equally. They decide to incorporate with an authorized capital of 250 shares of $100 par value, of which 170 shares will be issued to them as their interests appear. The books are closed and the following after-closing trial balance is prepared.

A AND B
After-Closing Trial Balance
December 31, 1960

Cash	200	
Accounts receivable	2,100	
Allowance for doubtful accounts		200
Merchandise inventory	5,900	
Land	2,000	
Building	7,500	
Accumulated depreciation		1,500
Accounts payable		1,000
Notes payable		600
A, capital		6,000
B, capital		8,400
	17,700	17,700

As a preliminary step, it may be necessary to adjust some of the accounts to bring their balances into conformity with values agreed upon for the purpose of transfer to the corporation. The net effect of such adjustments is carried to the partners' capital accounts in the profit and loss ratio.

As an example, assume that *A* and *B*, after reviewing current data on prices and values, agree that the assets of the partnership should be taken over at the following amounts:

Cash	$ 200
Accounts receivable	1,800
Merchandise inventory	5,900
Land	4,200
Building	6,500

Entries to give expression to the above agreement are submitted below.

Land	2,200	
Accumulated depreciation	500	
Allowance for doubtful accounts		100
Capital adjustment account		2,600
Adjustment of accounts prior to incorporation.		
Capital adjustment account	2,600	
A, capital		1,300
B, capital		1,300
Division of the net result of asset adjustments made prior to incorporation.		

The change from the partnership form of organization to the corporate form is made by debiting the partners' capital accounts to close them and crediting a capital stock account for the shares issued to the partners. If the sum of the partners' capital account balances exceeds the par or stated value of the shares issued to the partners in exchange for the net assets of the partnership, a premium or paid-in surplus account will be credited.

The entry for the issuance of the shares to *A* and *B* is:

A, capital	7,300	
B, capital	9,700	
Capital stock		17,000
Issuance of 170 shares of stock to *A* and *B*.		

If the partnership books are to be closed and new books opened for the corporation, the entries on the partnership books may be described in brief as follows:

(1) Adjusting entries to bring the account balances into conformity with agreed-upon transfer values.

(2) Entries to record the effect of the adjustments on the partners' capital accounts.

(3) Entries to close the asset and liability accounts taken over by the corporation and to record the capital stock received in exchange.

(4) Entries to distribute the capital stock of the corporation to the partners, which entries will close the partners' capital accounts.

CHAPTER THREE

Partnerships (Continued)

Liquidation

The liquidation process. In its narrower sense, liquidation means the payment of a liability. But in its broader sense, liquidation means the process of winding up a business, converting assets into cash (or other distributable assets) by sale of the business or by piecemeal realization, disposing of the liabilities by payment or through their assumption by the purchaser of the business, and distributing the remaining cash (or other distributable assets) to the partners or stockholders. While this process is going on, a business is said to be in liquidation.

Purposes of the illustrative cases. Two basic rules should govern all partnership dissolutions, and the illustrative cases are intended to show the application of these rules. The rules have to do with the distribution of any loss or gain incident to the liquidation process, and the order of distribution of cash.

Distribution of loss or gain. The rule relative to the distribution of any loss or gain may be stated as follows:

Any known loss or gain should be recorded in the partners' accounts before any payments are made to the partners.

Or, stated in another way:

Always distribute the gain or loss before distributing the cash.

This rule cannot be too strongly emphasized. It has often been ignored, and serious errors have been caused by distributing cash in the capital ratio, the profit and loss ratio, or some other ratio, before recording liquidation gains and losses.

The amount to which a partner is entitled when the business is liquidated depends on:

His capital contribution.
His drawings.
His share of net income and losses on operations and gains and losses on liquidation.
The balance in any loan account or in any other account with a partner showing amounts receivable from the firm or payable to the firm.

Unless all of these factors are taken into consideration, it is impossible to tell what amounts should be paid to the partners.

It also cannot be too strongly emphasized that, in the absence of a specific agreement to the contrary, the profit and loss ratio applicable to operating results also governs the division of gains or losses arising from the liquidation of a partnership.

It is an error to assume that losses incurred at the dissolution of a partnership should be divided in the capital ratio. One writer has stated that such losses should be divided in the capital ratio and has undertaken to support this statement by the argument that, when the partners decide to go out of business, the partnership is dissolved, the partnership agreement is no longer binding, and, thereafter, losses are losses of capital and should be borne in the capital ratio.

There are several answers to this argument. In the first place, all losses are losses of capital. If operations result in a loss, the capital of the partners is reduced; but the loss is borne in the profit and loss ratio.

In the second place, the partnership is not dissolved merely by the decision to sell the business or to discontinue operations. The partners have placed their assets in a common fund, and they continue to be partners until the business is sold, or until the assets are realized, and final distribution is made. Any liquidation losses are, therefore, partnership losses, and the agreement concerning the division of partnership losses governs their division.

In the third place, the earnings or losses from operations, which have been divided in the agreed ratio, are merely periodical estimates; the true gain or loss on the partnership venture is not definitely determinable until the partnership is dissolved and the partnership resources are distributed among the partners. The

depreciation, which affected the income statements, may have been incorrect; the provision for bad debts may have been incorrect; other assets may have been incorrectly valued. All of these things have affected the earnings that have been divided in the profit and loss ratio; the loss or gain disclosed at dissolution is, in a sense, a correction of any such errors, and it also should be divided in the profit and loss ratio.

Unless the profit-sharing agreement is expressly limited to the results of operations, and some other agreement is made with respect to liquidating gains and losses, it is incorrect to assume any such limitation.

Order of distribution of cash. As a general rule, the cash should be distributed in the following order:

To outside creditors.
To partners for any loan accounts.
To partners for capital accounts.

This rule has some exceptions, which will be discussed and illustrated in subsequent sections.

Material in Chapters 3 and 4. The illustrative cases in this chapter and in Chapter 4 fall into the groups mentioned below:

In Chapter 3—No payments to partners until realization of assets has been completed:
Liquidation when partnership is solvent.
Liquidation under conditions of insolvency.
In Chapter 4—Installment payments to partners before realization of assets has been completed.

Liquidation of Solvent Partnership after Complete Realization of Assets

First group of cases. The two cases in this group illustrate liquidations *when losses and expenses have not produced a debit balance in any partner's account.*

Case 1—No partner's loan. The following is a condensed trial balance of a partnership before liquidation:

Assets	35,000	
Liabilities		5,000
A, capital		20,000
B, capital		10,000
	35,000	35,000

Gains and losses are shared equally. The assets are sold for $29,000 cash.

A AND B
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals	
	Noncash	Cash	Liabilities	A	B
Profit and loss ratio				50%	50%
Balances before realization	$35,000		$5,000*	$20,000*	$10,000*
Realization and loss	35,000*	$29,000		3,000	3,000
Balances		$29,000	$5,000*	$17,000*	$ 7,000*
Cash payments:					
Liabilities		5,000*	5,000		
Partners' capitals		24,000*		17,000	7,000

The heading of the liquidation statement may show a date or a period, depending upon the time required for the realization of the assets and the payments to creditors and partners.

Case 2—PARTNER'S LOAN. This case illustrates the general rule that cash distributions should be made in the following order of priority: (1) to outside creditors in payment of liabilities; (2) to partners in payment of loans from them; and (3) to partners in liquidation of their capital investments.

The following is a condensed trial balance of a partnership prior to liquidation:

Assets	35,000	
Liabilities		5,000
C, loan		5,000
C, capital		15,000
D, capital		10,000
	35,000	35,000

The assets are sold for $30,000. Since nothing is said concerning the profit and loss ratio, it must be assumed that gains and losses are shared equally.

The liquidation statement is shown below.

C AND D
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Accounts		
				C		D
	Noncash	Cash	Liabilities	Loan	Capital	Capital
Profit and loss ratio					50%	50%
Balances before realization	$35,000		$5,000*	$5,000*	$15,000*	$10,000*
Realization and loss	35,000*	$30,000			2,500	2,500
Balances		$30,000	$5,000*	$5,000*	$12,500*	$ 7,500*
Cash payments:						
Liabilities		5,000*	5,000			
Partner's loan		5,000*		5,000		
Partners' capitals		20,000*			12,500	7,500

Second group of cases. The four cases in this group illustrate various conditions which may be encountered *when losses and expenses have produced a debit balance in a partner's capital account.*

Case 3—CAPITAL DEBIT PAID IN. This case is based on the following condensed trial balance showing the condition before the realization of assets:

Assets	30,000	
Liabilities		12,000
E, capital		15,000
F, capital		3,000
	30,000	30,000

Profits and losses are shared equally. The assets realize $22,000. Charging *F* with $4,000, his share of the loss, produces a $1,000 debit balance in his account; in fulfillment of his agreement to bear one-half of any loss, *F* pays in $1,000 in cash. If he had not done so, *E* would have borne $5,000 of the loss and *F* would have borne only $3,000, which would have been in violation of the partnership agreement.

E AND F
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals	
	Noncash	Cash	Liabilities	*E*	*F*
Profit and loss ratio				50%	50%
Balances before realization	$30,000		$12,000*	$15,000*	$3,000*
Realization and loss	30,000*	$22,000		4,000	4,000
Balances		$22,000	$12,000*	$11,000*	$1,000
Receipt of cash from *F*		1,000			1,000*
Balances		$23,000	$12,000*	$11,000*	
Cash payments:					
Liabilities		12,000*	12,000		
Partner's capital		11,000*		11,000	

Case 4—CAPITAL DEBIT OFFSET AGAINST LOAN CREDIT. Assume that *G* and *H* share profits in the ratio of 70% and 30%, and that their trial balance before realization of assets was:

Assets	87,000	
Liabilities		15,000
G, loan		10,000
G, capital		20,000
H, loan		24,000
H, capital		18,000
	87,000	87,000

The assets were sold for $55,000. Charging *G* with 70% of the loss, or $22,400, produces a debit balance of $2,400 in his capital account. The liquidation statement is on page 39.

Case 4.

G AND H
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Accounts			
				G		*H*	
	Noncash	Cash	Liabilities	Loan	Capital	Loan	Capital
Profit and loss ratio					70%		30%
Balances before realization	$87,000		$15,000*	$10,000*	$20,000*	$24,000*	$18,000*
Realization and loss	87,000*	$55,000			22,400		9,600
Balances		$55,000	$15,000*	$10,000*	$ 2,400	$24,000*	$ 8,400*
Capital deficit offset against loan				2,400	2,400*		
Balances		$55,000	$15,000*	$ 7,600*		$24,000*	$ 8,400*
Cash payments:							
Liabilities		15,000*	15,000				
Partners' loans		31,600*		7,600		24,000	
Partners' capital		8,400*					8,400

The credit balance in a partner's loan account should not be paid to him in full if there is a debit balance in his capital account. The debit balance in the capital account represents a debt owed by the partner to the partnership; the credit balance in the loan account represents a debt owed by the partnership to the partner. Enough of the loan should be transferred to the capital account to make good the debit balance in the capital account, and only the remainder of the loan should be paid to the partner. This is called *exercising the right of offset.*

If the entire credit balance in the loan account were paid to the partner, without making the offset, the partner might refuse, or be unable, to pay in the debit balance of his capital account.

The entire loan should not be transferred to the capital account. Loans take precedence over capitals and should be paid before the capitals. If the entire loan were transferred to the capital account, the priority of the unapplied balance of the loan would be disregarded.

A condition might exist that would make the immediate exercise of offset questionable. Suppose that *G* was personally insolvent. His creditors might claim that the amount receivable from the partnership on his loan was part of his personal estate, and therefore a resource that should be available for the payment of his personal creditors. In such a case, it might be advisable to postpone the decision as to the exercise of offset until the legal status of such a claim by the creditors was determined.

Case 5—PARTNER WITH DEBIT BALANCE; NO LOAN—TWO PARTNERS. The assets, carried at $30,000, were sold for $18,000. Charging *I* with $6,000, half of the loss, produces a debit balance in his account. If there is a possibility of making a collection from *I*, his debit balance is not written off. If it is desired to distribute the cash on hand at this point, all of the cash on hand after payment of the liabilities should be given to *J*, and he will be left with a credit balance equal to *I*'s debit balance.

I AND J
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals	
	Noncash	Cash	Liabilities	*I*	*J*
Profit and loss ratio				50%	50%
Balances before realization	$30,000		$10,000*	$5,000*	$15,000*
Realization and loss	30,000*	$18,000		6,000	6,000
Balances		$18,000	$10,000*	$1,000	$ 9,000*
Cash payments:					
Liabilities		10,000*	10,000		
Partner's capital		8,000*			8,000
Balances				$1,000	$ 1,000*

If it develops that *I*'s debit balance is uncollectible, *J* will be obliged to stand this additional loss, and the liquidation statement will be concluded as follows:

Balances (from above)	$1,000	$ 1,000*
Additional loss to *J*	1,000*	1,000

Case 6—PARTNER WITH DEBIT BALANCE; NO LOAN—THREE PARTNERS. Assume that *K*, *L*, and *M* are partners with capitals as shown in the following statement of liquidation, and that they share profits and losses in the ratio of 50%, 30%, and 20%, respectively. The assets, with a book value of $80,000, are sold for $58,000. Dividing the $22,000 loss in the profit and loss ratio produces a debit balance of $1,000 in *K*'s account. It is assumed that it is desired, after the liabilities are paid, to distribute the cash on hand before it is known whether *K*'s debit balance will be collected or will prove to be uncollectible.

The important thing to remember is that, if the partner with a debit balance ultimately fails to pay it in, this debit balance will have to be charged to the other partners in their profit and loss ratio. Therefore, the cash on hand should be distributed to the partners with credit balances in such a way as to leave exactly the right credit balances to absorb the loss. In other words, the partners with credit balances should be paid down to the amounts with which they will be charged if the partner with the debit balance fails to make good this balance. In this illustration the profit shares of *L* and *M* were 30% and 20%, respectively. Therefore, they should be paid down to $^{30}/_{50}$ and $^{20}/_{50}$ of $1,000.

K, L, AND M
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals		
	Noncash	Cash	Liabilities	*K*	*L*	*M*
Profit and loss ratio..				50%	30%	20%
Balances before realization............	$80,000		$20,000*	$10,000*	$26,100*	$23,900*
Realization and loss..	80,000*	$58,000		11,000	6,600	4,400
Balances...........		$58,000	$20,000*	$ 1,000	$19,500*	$19,500*
Cash payments:						
Liabilities.......		20,000*	20,000			
Partners' capitals		38,000*			18,900	19,100
Balances...........				$ 1,000	$ 600*	$ 400*

If it develops that *K* is unable to pay in his debit balance, the resulting loss to *L* and *M* is charged to them in their ratio of 30 and 20 and the liquidation statement will be concluded as follows:

Balances (from above)............................	$ 1,000	$ 600*	$ 400*
Loss from noncollection from *K*—charged to *L* and *M*..	1,000*	600	400

Third group of cases. The three cases in this group illustrate procedures which apply when *a partner has sufficient capital* (*or capital and loan*) *to bear his share of the loss on realization, but not enough to bear his share of the actual, or possible, loss from noncollection of the debit balance in the capital account of another partner.*

Case 7—Partners' debit balances known to be uncollectible—No loans. It is assumed that four partners, with capital balances as shown in the statement on page 42, share earnings in the ratio of 40%, 40%, 15%, and 5%. The assets, with a book value of $38,000, were realized with a loss of $20,000; the liabilities, amounting to $15,000, were paid; and $3,000 cash remains for distribution. No partner will be able to pay in any debit balance which develops in his account. The liquidation statement on page 42 shows that the realization loss produces a debit

balance in N's account, which is written off by debits to O, P, and Q in the ratio of 40%, 15%, and 5%. The charge to O produces a debit balance in his account, which is written off by debits to P and Q in the ratio of 15% and 5%.

Case 7.

N, O, P, AND Q
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals			
	Noncash	Cash	Liabilities	N	O	P	Q
Profit and loss ratio				40%	40%	15%	5%
Balances before realization	$38,000		$15,000*	$2,000*	$11,000*	$7,000*	$3,000*
Realization and loss	38,000*	$18,000		8,000	8,000	3,000	1,000
Balances		$18,000	$15,000*	$6,000	$ 3,000*	$4,000*	$2,000*
Write-off of N's debit balance				6,000*	4,000	1,500	500
Balances					$ 1,000	$2,500*	$1,500*
Write-off of O's debit balance					1,000*	750	250
Balances						$1,750*	$1,250*
Cash payments:							
Liabilities		15,000*	15,000				
Partners' capitals		3,000*				1,750	1,250

Case 8—SAME AS CASE 7 EXCEPT THAT IT IS NOT KNOWN WHETHER DEBIT BALANCES IN PARTNERS' ACCOUNTS WILL BE COLLECTIBLE. In this illustration, N has a $6,000 debit balance, and it is desired to make a cash distribution before it is known whether this balance can be collected from him; the case is further complicated by the fact that, if N's debit balance is uncollectible, its write-off will produce a $1,000 debit balance in O's account and the collectibility of such a debit balance is uncertain. The liquidation statement is on page 43. It shows that cash payments are made to only those partners whose credit balances are sufficient to bear all possible charges, and the payments to such partners are equal to the excess of their credit balances over the possible charges.

Case 8.

N, O, P, AND Q

Statement of Partnership Liquidation

(Starred Items are Credits)

Exhibit A

	Assets			Partners' Capitals			
	Noncash	Cash	Liabilities	*N*	*O*	*P*	*Q*
Balances before realization	$38,000		$15,000*	$2,000*	$11,000*	$7,000*	$3,000*
Realization and loss	38,000*	$18,000		8,000	8,000	3,000	1,000
Balances		$18,000	$15,000*	$6,000	$ 3,000*	$4,000*	$2,000*
Payment of liabilities		15,000*	15,000				
Balances		$ 3,000		$6,000	$ 3,000*	$4,000*	$2,000*
Payments—Schedule 1		3,000*				1,750	1,250
Balances				$6,000	$ 3,000*	$2,250*	$ 750*

N, O, P, AND Q

Computation of Payments to Partners

(Starred Items are Credits)

Schedule 1

	Partners' Capitals			
	N	*O*	*P*	*Q*
Profit and loss ratio	40%	40%	15%	5%
Balances before payments to partners—Exhibit A	$6,000	$ 3,000*	$4,000*	$2,000*
Possible charges—If *N*'s $6,000 debit balance is uncollectible—charges to *O*, *P*, and *Q* in ratio of 40, 15, and 5	6,000*	4,000	1,500	500
Possible balances		$ 1,000	$2,500*	$1,500*
Additional possible charge—If *O*'s account develops a debit balance and it is uncollectible—charges to *P* and *Q* in ratio of 15 and 5		1,000*	750	250
Possible credit balances, and safe payments to partners			$1,750*	$1,250*

Partnership Liquidation under Conditions of Insolvency

Partnership insolvent; partners solvent. If a partnership is insolvent but the individual partners are solvent, the partnership creditors can proceed against any partner for the collection of the portion of their claims which cannot be paid from firm assets.

Case 9—Two partners, both with debit balances. Assume the following trial balance before realization of assets:

Assets	25,000	
Liabilities		20,000
R, capital		3,000
S, capital		2,000
	25,000	25,000

Profits and losses are shared equally. The assets are sold for $17,000, or at a loss of $8,000.

R AND S
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals	
	Noncash	Cash	Liabilities	*R*	*S*
Profit and loss ratio				50%	50%
Balances before realization	$25,000		$20,000*	$3,000*	$2,000*
Realization and loss	25,000*	$17,000		4,000	4,000
Balances		$17,000	$20,000*	$1,000	$2,000
Payments to creditors		17,000*	17,000		
Balances			$ 3,000*	$1,000	$2,000

If the creditors collect the $3,000 from *R*, the liquidation statement will be continued as follows:

Payment of liabilities by *R*			3,000	3,000*	
Balances after payment of liabilities				$2,000*	$2,000

If *R* is able to collect $2,000 from *S*, the liquidation statement will be concluded as follows:

R's collection from *S*	2,000	2,000*

If *R* can collect only $1,500 from *S*, the liquidation statement will be concluded as follows:

Balances after payment of liabilities—as above	$2,000*	$2,000
R's collection from *S*	1,500	1,500*
Balance of *S*'s account written off as a loss to *R*	500	500*

Case 10—PARTNERS WITH DEBIT AND CREDIT BALANCES. It is possible for one or more partners to have credit balances in their capital accounts, even though the partnership is insolvent; but at least one of the partners, in that case, will have a debit balance, and the capital account debit balances will exceed the capital account credit balances.

To illustrate, assume that *T*, *U*, and *V* draw off the following trial balance preparatory to liquidation:

Assets	40,000	
Liabilities		20,000
T, capital		3,000
U, capital		8,000
V, capital		9,000
	40,000	40,000

Profits and losses are shared equally. The assets are sold for $19,000.

T, U, AND V
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals		
	Noncash	Cash	Liabilities	*T*	*U*	*V*
Profit and loss ratio				⅓	⅓	⅓
Balances before realization	$40,000		$20,000*	$3,000*	$8,000*	$9,000*
Realization and loss	40,000*	$19,000		7,000	7,000	7,000
Balances		$19,000	$20,000*	$4,000	$1,000*	$2,000*
Payment to creditors		19,000*	19,000			
Balances			$ 1,000*	$4,000	$1,000*	$2,000*

From this point, various conditions may develop depending on which partner pays the liabilities. For instance:

		Partners' Capitals		
	Liabilities	*T*	*U*	*V*
(a) *If remaining liabilities are paid by* T:				
Balances—as above	$1,000*	$4,000	$1,000*	$2,000*
Payment of liabilities by *T*	1,000	1,000*		
Remaining balances		$3,000	$1,000*	$2,000*
(b) *If remaining liabilities are paid by* U:				
Balances—as above	$1,000*	$4,000	$1,000*	$2,000*
Payment of liabilities by *U*	1,000		1,000*	
Remaining balances		$4,000	$2,000*	$2,000*
(c) *If remaining liabilities are paid by* V:				
Balances—as above	$1,000*	$4,000	$1,000*	$2,000*
Payment of liabilities by *V*	1,000			1,000*
Remaining balances		$4,000	$1,000*	$3,000*

Again, various conditions may develop, depending upon the amount of the collection which U and V can obtain from T. If, after the payment of the liabilities,

T pays in his debit balance in full, U and V can be paid in full.
T can or will pay nothing further, his account will be written off by equal charges to U and V. Under conditions (a) and (c) above, the write-off will produce a debit balance in U's account; U should pay V the amount of this debit balance.
T pays in a part of his debit balance, and may or may not pay in more later. The amount of T's payment should be divided between U and V in such a manner as to reduce their capital balances as nearly as possible to equal amounts, since any loss on noncollection of T's account should be divided equally between U and V.

Partnership insolvent; one or more partners insolvent. The following case explains the legal rights of creditors of an insolvent partnership and the rights of creditors of an insolvent partner.

Case 11. Assume that X, Y, and Z, sharing profits and losses equally, draw off the following trial balance:

Assets	60,000	
Liabilities		40,000
X, capital		5,000
Y, capital		14,000
Z, capital		1,000
	60,000	60,000

The separate assets and liabilities of the partners, outside the partnership, are as follows:

	Assets	Liabilities
X	$ 1,000	$ 1,000
Y	2,000	10,000
Z	15,000	1,000

The partnership assets are sold for $36,000.

X, Y, AND Z
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals		
	Noncash	Cash	Liabilities	X	Y	Z
Profit and loss ratio				⅓	⅓	⅓
Balances before realization	$60,000		$40,000*	$5,000*	$14,000*	$1,000*
Realization and loss	60,000*	$36,000		8,000	8,000	8,000
Balances		$36,000	$40,000*	$3,000	$ 6,000*	$7,000
Payments to creditors		36,000*	36,000			
Balances			$ 4,000*	$3,000	$ 6,000*	$7,000

The legal rules which apply to the marshalling of assets when a partnership and one or more of the partners are insolvent may be stated as follows:

The creditors of the partnership have a right to be paid in full from the firm assets before the creditors of the individual partners have any claim against the firm assets.

After the firm creditors have been paid, the creditors of a partner with a credit balance may have recourse against his partnership interest to the extent of his credit balance.

The creditors of a partner have a right to be paid in full from his separate assets before the creditors of the firm have any claim against these assets.

After a partner's personal creditors have been paid, the creditors of the partnership have access to the residue of his assets regardless of whether he has a credit or a debit balance, provided the partnership creditors have already exhausted the firm assets.

Further rights of partnership creditors. Continuing Case 11, the partnership creditors, who have had all of the firm assets applied to the payment of the firm debts and who still have claims of $4,000, cannot make any collections from *X* or *Y*, because the private assets of these partners are only sufficient, or are insufficient, to pay their personal debts. They have a right, however, to collect the entire $4,000 from *Z*. It is immaterial whether *Z*'s capital account shows a debit or a credit balance. The only essential fact is that *Z* will have $14,000 of assets after paying his private debts. Assuming that the partnership creditors collect the $4,000 from *Z*, this fact will be shown in the liquidation statement as follows:

		Partners' Capitals		
	Liabilities	*X*	*Y*	*Z*
Balances as above	$4,000*	$3,000	$6,000*	$7,000
Payment of liabilities by *Z*	4,000			4,000*
Balances		$3,000	$6,000*	$3,000

* Credit.

Rights of creditors of X. *X* has $1,000 of separate assets and owes $1,000 of liabilities to separate creditors. But, after the partnership losses are charged off, *X* has a debit balance of $3,000 in his capital account. This means that *X* is obligated to pay $3,000 into the firm. This $3,000 is a personal obligation of *X* to make a contribution to the firm. The obligation arose from *X*'s profit and loss agreement with his partners; unless the $3,000 contribution is made by *X*, his partners will bear more than their agreed shares of the loss.

According to bankruptcy law and common-law decisions, X's $1,000 of assets should be applied ratably toward the payment of his $3,000 debt to the firm and his debts of $1,000 to outsiders.

	Debt	Payment
To the firm	$3,000	$ 750
To outsiders	1,000	250
Total	$4,000	$1,000

According to the Uniform Partnership Act, in force in many states, there is a different rule, as follows:

> "Where a partner has become bankrupt or his estate is insolvent the claims against his separate property shall rank in the following order:
> "I. Those owing to separate creditors.
> "II. Those owing to partnership creditors.
> "III. Those owing to partners by way of contribution."

Under this rule, all of X's assets would go to his separate creditors, who would be paid in full, and no contribution would be made by X to the partnership in payment of his $3,000 debit balance.

Rights of creditors of Y. The creditors of Y, after receiving his assets of $2,000, will have a further claim of $8,000. Toward the satisfaction of this claim, Y's creditors can attach any interest which he may have in the partnership. The amount and nature of Y's interest in the partnership will depend upon whether or not a contribution is received from X.

If a $750 contribution is received from X, the accounts will show:

	Partners' Capitals		
	X	*Y*	*Z*
Balances before contribution from *X*	$3,000	$6,000*	$3,000
Contribution from *X*	750*		
Balances	$2,250	$6,000*	$3,000
Loss on *X*'s account	2,250*	1,125	1,125
Balances		$4,875*	$4,125

* Credit.

Y has a partnership interest of $4,875, represented by the $750 of cash on hand, received from X, and his $4,125 claim against Z. Y's separate creditors are entitled to receive these amounts toward the settlement of Y's liabilities to them.

If no contribution is received from X, the accounts will show:

	Partners' Capitals		
	X	*Y*	*Z*
Balances as above	$3,000	$6,000*	$3,000
Loss on *X*'s account	3,000*	1,500	1,500
Balances		$4,500*	$4,500

* Credit.

Y now has a partnership interest of $4,500, represented by his claim against *Z*. *Y*'s separate creditors are entitled to a contribution of $4,500 from *Z*.

Rights of creditors of Z. No problems arise with respect to *Z*'s liabilities because his assets are sufficient to pay all of the claims against him.

CHAPTER FOUR

Partnerships (Concluded)

Liquidation in Installments

Safeguard requirement. In the illustrative cases in the preceding chapter, all of the assets were realized before any payments were made to the partners. Hence, all possible losses on realization were known and could be charged to the partners before any cash payments were made to them.

But partnerships sometimes are liquidated in installments. That is, some of the assets are realized, the liabilities are paid, and the remaining cash is distributed to the partners. More assets are then realized, and the cash thus obtained is distributed to the partners. This process continues until realization of the assets has been completed to the extent possible and the proceeds have been paid to the partners in installments.

When payments are made to partners in installments, they receive money before it is known what losses will be incurred and charged to them. To safeguard the liquidator and the partners, it is important to apply the following rule:

> Make payments to only those partners who would have credit balances remaining in their capital and/or loan accounts even though all possible losses were incurred, and pay such partners only the amounts of the credit balances which would remain under such circumstances.

If this rule were not followed and the payments made to a partner and the losses charged to him ultimately exceeded his equity at the time liquidation started, and if it should prove impossible to make recovery from the partner, an injustice would be done to the other partners. Moreover, a liquidator might find himself in jeopardy, because the partners who suffered as a result of his action might seek to obtain recovery from him.

Two methods of determining the installment payments which can safely be made to partners are discussed in this chapter.

First Method

The cases presented in this chapter should not be regarded as exhausting the types of conditions which may be encountered in partnership installment liquidations. They merely show how the foregoing general rule is applied to a few selected conditions. In the solution of problems, no attempt should be made to find a comparable case. Any situation can be dealt with by application of the general rule.

First case. It is assumed that there are no partners' loans, and that each partner has sufficient capital to bear his share of any possible loss, so that there is no danger of a debit balance developing in any partner's account.

Case 1. *A*, *B*, *C*, and *D*, sharing profits and losses equally, draw off the following trial balance preparatory to liquidation:

Assets (noncash)	59,000	
Liabilities		5,000
A, capital		17,000
B, capital		15,000
C, capital		14,000
D, capital		8,000
	59,000	59,000

First installment: Assets carried at $34,000 are sold for $30,000; the liabilities are paid; and the remaining $25,000 of cash is distributed to the partners.

Second, and final, installment: The remaining assets are sold for $9,000, and the cash is distributed to the partners.

The liquidation statement is on page 52; the supporting schedule is on page 53.

Case 1.

Exhibit A

A, B, C, AND D
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals			
	Noncash	Cash	Liabilities	*A*	*B*	*C*	*D*
First installment:							
Balances before realization	$59,000		$5,000*	$17,000*	$15,000*	$14,000*	$8,000*
Realization and loss	34,000*	$30,000		1,000	1,000	1,000	1,000
Balances	$25,000	$30,000	$5,000*	$16,000*	$14,000*	$13,000*	$7,000*
Payment of liabilities		5,000*	5,000				
Balances before payment to partners	$25,000	$25,000		$16,000*	$14,000*	$13,000*	$7,000*
Payment to partners—Schedule 1		25,000*		9,750	7,750	6,750	750
Balances	$25,000			$ 6,250*	$ 6,250*	$ 6,250*	$6,250*
Second installment:							
Realization and loss	25,000*	$ 9,000		4,000	4,000	4,000	4,000
Balances before payment to partners		$ 9,000		$ 2,250*	$ 2,250*	$ 2,250*	$2,250*
Payment to partners		9,000*		2,250	2,250	2,250	2,250

The liquidation statement for the first installment was completed to and including the line "Balances before payment to partners"; the safe payments to be made in the first installment were then computed in Schedule 1 and were entered in the liquidation statement on the "Payment to partners" line, and the resulting balances were entered.

It was perfectly safe to distribute the cash in the manner shown because, even if all of the remaining noncash assets should prove to be worthless, each partner was left with enough capital to bear his share of the loss.

A, B, C, AND D

Schedule 1

Computation of Installment Payments to Partners
(Excess of Credit Balances at Date of Installment Payment over Possible Subsequent Charges)
(Starred Items are Credits)

	A	*B*	*C*	*D*
Profit and loss ratio	25%	25%	25%	25%
First installment:				
Balances before payment to partners—Exhibit A	$16,000*	$14,000*	$13,000*	$7,000*
Possible charges—Noncash assets, $25,000—Exhibit A	6,250	6,250	6,250	6,250
Possible credit balances—and safe payment to partners	$ 9,750*	$ 7,750*	$ 6,750*	$ 750*

Second installment:

There are no remaining noncash assets and the partners are paid the amounts of their balances after charges for realization losses.

Fairness of the procedure. No partner is defrauded in any way by this method of paying in installments. This fact can be demonstrated by assuming that no payments were made until after the realization was completed. The total loss and the total cash available for distribution after the realization of the assets was completed would have been:

	Loss	Cash for Partners
First period	$ 4,000	$25,000
Second period	16,000	9,000
Total	$20,000	$34,000

The distribution of the loss and of the cash would have been:

	Partners' Capitals			
	A	*B*	*C*	*D*
Balances before realization	$17,000	$15,000	$14,000	$8,000
Loss on realization	5,000	5,000	5,000	5,000
Cash distribution	$12,000	$10,000	$ 9,000	$3,000

By the installment method illustrated, the partners were charged with the above amounts of loss, and were paid the above amounts of cash, as detailed below:

	Partners' Capitals			
	A	*B*	*C*	*D*
Charges for losses:				
First period	$ 1,000	$ 1,000	$1,000	$1,000
Second period	4,000	4,000	4,000	4,000
Total	$ 5,000	$ 5,000	$5,000	$5,000
Cash distributions:				
First period	$ 9,750	$ 7,750	$6,750	$ 750
Second period	2,250	2,250	2,250	2,250
Total	$12,000	$10,000	$9,000	$3,000

A liquidator cannot compel partners to agree to installment payments which will properly safeguard him. If any partner objects to such payments, the liquidator will be wise to refuse to make any distributions until the realization of assets is completed.

First group of cases. If there are no loans and if any partner's capital before a cash distribution is less than his possible loss on the assets which will remain after the distribution,

That partner should be paid nothing;
The other partners should be left with capitals sufficient to cover:

(1) Their own shares of a total possible loss on the remaining assets;
(2) Their shares of the loss which might result from a partner's failure to pay in a debit balance, and the consequent necessity of writing off his debit balance by charges to the partners with credit balances.

In the first case in this group, one partner's capital is insufficient to bear his share of a possible total loss on realization of assets; in the second case, two partners have insufficient capitals. In both cases, the other partners have sufficient capitals to absorb losses of the two kinds mentioned above, namely: (1) losses on asset realizations, and (2) losses from write-offs of other partners' uncollectible debit balances.

Case 2. One partner with capital insufficient to bear his share of a total loss on realization; other partners with capital sufficient to absorb all losses. Assume that four partners have capitals and share profits and losses as follows:

Partner	Capitals	Profit and Loss Ratio
E	$20,000	25%
F	40,000	20
G	50,000	25
H	60,000	30

All liabilities have been paid. The partnership is dissolved and the process of realization and liquidation extends over five months.

	Assets Realized	Loss	Cash to Partners
First month	$ 50,000	$10,000	$ 40,000
Second month	40,000	2,000	38,000
Third month	30,000	4,000	26,000
Fourth month	35,000	5,000	30,000
Fifth month	15,000	6,000	9,000
Total	$170,000	$27,000	$143,000

The liquidation statement and supporting schedule are on pages 55 and 56.

Case 2.

Exhibit A

E, F, G, AND H
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets		Partners' Capitals			
	Noncash	Cash	*E*	*F*	*G*	*H*
First month:						
Balances before realization	$170,000.00		$20,000.00*	$40,000.00*	$50,000.00*	$60,000.00*
Realization and loss	50,000.00*	$40,000.00	2,500.00	2,000.00	2,500.00	3,000.00
Balances before payment to partners	$120,000.00	$40,000.00	$17,500.00*	$38,000.00*	$47,500.00*	$57,000.00*
Payment to partners—Schedule 1		40,000.00*		10,666.67	13,333.33	16,000.00
Balances	$120,000.00		$17,500.00*	$27,333.33*	$34,166.67*	$41,000.00*
Second month:						
Realization and loss	40,000.00*	$38,000.00	500.00	400.00	500.00	600.00
Balances before payment to partners	$ 80,000.00	$38,000.00	$17,000.00*	$26,933.33*	$33,666.67*	$40,400.00*
Payment to partners—Schedule 1		38,000.00*		10,133.33	12,666.67	15,200.00
Balances	$ 80,000.00		$17,000.00*	$16,800.00*	$21,000.00*	$25,200.00*
Third month:						
Realization and loss	30,000.00*	$26,000.00	1,000.00	800.00	1,000.00	1,200.00
Balances before payment to partners	$ 50,000.00	$26,000.00	$16,000.00*	$16,000.00*	$20,000.00*	$24,000.00*
Payment to partners—Schedule 1		26,000.00*	3,500.00	6,000.00	7,500.00	9,000.00
Balances	$ 50,000.00		$12,500.00*	$10,000.00*	$12,500.00*	$15,000.00*
Fourth month:						
Realization and loss	35,000.00*	$30,000.00	1,250.00	1,000.00	1,250.00	1,500.00
Balances before payment to partners	$ 15,000.00	$30,000.00	$11,250.00*	$ 9,000.00*	$11,250.00*	$13,500.00*
Payment to partners		30,000.00*	7,500.00	6,000.00	7,500.00	9,000.00
Balances	$ 15,000.00		$ 3,750.00*	$ 3,000.00*	$ 3,750.00*	$ 4,500.00*
Fifth month:						
Realization and loss	15,000.00*	$ 9,000.00	1,500.00	1,200.00	1,500.00	1,800.00
Balances before payment to partners		$ 9,000.00	$ 2,250.00*	$ 1,800.00*	$ 2,250.00*	$ 2,700.00*
Payment to partners		9,000.00*	2,250.00	1,800.00	2,250.00	2,700.00

Case 2.

Schedule 1

E, F, G, AND H
Computation of Installment Payments to Partners
(Starred Items are Credits)

	E	*F*	*G*	*H*
Profit and loss ratio	25%	20%	25%	30%
First month:				
Balances before payment to partners—Exhibit A	$17,500.00*	$38,000.00*	$47,500.00*	$57,000.00*
Possible charges—Noncash assets, $120,000—Exhibit A	30,000.00	24,000.00	30,000.00	36,000.00
Possible balances	$12,500.00	$14,000.00*	$17,500.00*	$21,000.00*
Additional possible charges—Account of *E*, $12,500—in ratio of 20, 25, and 30	12,500.00*	3,333.33	4,166.67	5,000.00
Possible credit balances, and safe payment to partners		$10,666.67*	$13,333.33*	$16,000.00*
Second month:				
Balances before payment to partners—Exhibit A	$17,000.00*	$26,933.33*	$33,666.67*	$40,400.00*
Possible charges—Noncash assets, $80,000—Exhibit A	20,000.00	16,000.00	20,000.00	24,000.00
Possible balances	$ 3,000.00	$10,933.33*	$13,666.67*	$16,400.00*
Additional possible charges—Account of *E*, $3,000	3,000.00*	800.00	1,000.00	1,200.00
Possible credit balances, and safe payment to partners		$10,133.33*	$12,666.67*	$15,200.00*
Third month:				
Balances before payment to partners—Exhibit A	$16,000.00*	$16,000.00*	$20,000.00*	$24,000.00*
Possible charges—Noncash assets, $50,000—Exhibit A	12,500.00	10,000.00	12,500.00	15,000.00
Possible credit balances, and safe payment to partners	$ 3,500.00*	$ 6,000.00*	$ 7,500.00*	$ 9,000.00*

After the cash distribution for the third month, the balances in the partners' capital accounts are in the profit and loss ratio:

Partner	Capital Account Balance	Capital and Profit and Loss Ratio
E	$12,500	25%
F	10,000	20
G	12,500	25
H	15,000	30
Total	$50,000	100%

Whenever this condition prevails, subsequent installment distributions can be made in the capital ratio because each partner's capital balance is equal to his share of the remaining total possible loss.

Case 3. Two partners with capitals insufficient to bear their shares of total possible loss on realization. Assume that four partners have capitals and share profits and losses as follows:

Partner	Capitals	Profit and Loss Ratio
I	$40,000	30%
J	60,000	20
K	70,000	40
L	30,000	10

Data for one installment payment are sufficient to illustrate the new point in the case: Two partners have insufficient capitals to bear their shares of a total loss, but the other partners have sufficient capitals to bear all possible charges. Prior to the first installment payment, $24,000 is realized on noncash assets carried at $30,000. The partial liquidation statement and schedule are on page 58.

Case 4. One partner with capital insufficient to bear his share of a total loss on realization; another with capital sufficient to bear his own share of a total loss on realization, but insufficient to bear in addition his share of a loss from failure to collect a partner's debit balance. Again, data for one installment will suffice to illustrate the new point in the case. The partners' capitals and profit and loss ratios are shown below:

Partner	Capitals	Profit and Loss Ratio
M	$20,100	30%
N	29,100	20
O	35,800	40
P	15,000	10

Assets carried at $15,000 produce $12,000 in realization. The partial liquidation statement and schedule are on page 59.

Case 3.

Exhibit A

I, J, K, AND L

Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets		Partners' Capitals			
	Noncash	Cash	*I*	*J*	*K*	*L*
First installment:						
Balances before realization	$200,000		$40,000*	$60,000*	$70,000*	$30,000*
Realization and loss	30,000*	$24,000	1,800	1,200	2,400	600
Balances before payment to partners	$170,000	$24,000	$38,200*	$58,800*	$67,600*	$29,400*
Payment to partners—Schedule 1		24,000*		16,000		8,000
Balances	$170,000		$38,200*	$42,800*	$67,600*	$21,400*

Schedule 1

I, J, K, AND L

Computation of Installment Payments to Partners
(Starred Items are Credits)

	I	*J*	*K*	*L*
Profit and loss ratio	30%	20%	40%	10%
First installment:				
Balances before payment to partners—Exhibit A	$38,200*	$58,800*	$67,600*	$29,400*
Possible charges—Noncash assets, $170,000—Exhibit A	51,000	34,000	68,000	17,000
Possible balances	$12,800	$24,800*	$ 400	$12,400*
Additional possible charges—Accounts of *I* and *K*, totalling $13,200	12,800*	8,800	400*	4,400
Possible credit balances, and safe payment to partners		$16,000*		$ 8,000*

Case 4.

Exhibit A

M, N, O, AND P
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets		Partners' Capitals			
	Noncash	Cash	*M*	*N*	*O*	*P*
First installment:						
Balances before realization	$100,000		$20,100*	$29,100*	$35,800*	$15,000*
Realization and loss	15,000*	$12,000	900	600	1,200	300
Balances before payment to partners	$ 85,000	$12,000	$19,200*	$28,500*	$34,600*	$14,700*
Payment to partners—Schedule 1		12,000*		7,700		4,300
Balances	$ 85,000		$19,200*	$20,800*	$34,600*	$10,400*

Schedule 1

M, N, O, AND P
Computation of Installment Payments to Partners
(Starred Items are Credits)

	M	*N*	*O*	*P*
Profit and loss ratio	30%	20%	40%	10%
First installment:				
Balances before payment to partners—Exhibit A	$19,200*	$28,500*	$34,600*	$14,700*
Possible charges—Noncash assets, $85,000—Exhibit A	25,500	17,000	34,000	8,500
Possible balances	$ 6,300	$11,500*	$ 600*	$ 6,200*
Additional possible charges—Account of *M*—in ratio of 20, 40, and 10	6,300*	1,800	3,600	900
Possible balances		$ 9,700*	$ 3,000	$ 5,300*
Additional possible charges—Account of *O*—in ratio of 20 and 10		2,000	3,000*	1,000
Possible credit balances, and safe payment to partners		$ 7,700*		$ 4,300*

Second group of cases—Partners' loans. If partners have loan accounts as well as capital accounts, the rule that partners' loans are to be paid before their capitals does not necessarily govern. The liquidator should consider the possible future loss and remember that, by the right of offset, losses may be charged against a partner's loan account if his capital is not sufficient to cover his share of the loss. Hence, the total possible future loss of each partner should be compared with the sum of his capital and loan account balances. One partner with a capital and no loan may receive an installment payment if his capital exceeds his possible loss; another partner with a capital and a loan may receive nothing, because the sum of his capital and loan is insufficient to cover his possible loss.

If the liquidator proposes thus to make a payment on a partner's capital before making a payment on the loan account of another partner, the partner with the loan account may object on the ground of the general rule that partners' loans should be paid before distributions are made on capital accounts. In such an event the liquidator should explain that the proposed basis is the only one by which he can make any immediate payment without running the risk of causing one, or possibly more, of the partners to bear more than a proper share of the loss.

Case 5. Certain partners have loans; each partner has sufficient capital to absorb his share of a total loss on realization. The partial liquidation statement and supporting schedule are shown on page 61. The partners' capitals after the charging of realization losses are shown in the liquidation statement; their profit and loss ratio is shown in the supporting schedule. There is $20,000 of cash available for distribution to the partners.

Case 5.

Exhibit A

Q, R, S, AND T
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets		Partners' Accounts					
			Q	*R*	*S*		*T*	
	Noncash	Cash	Capital	Capital	Loan	Capital	Loan	Capital
First installment:								
Balances before payment to partners	$50,000	$20,000	$18,000*	$16,000*	$3,000*	$15,000*	$3,000*	$15,000*
Payment to partners—Schedule 1		20,000*	5,500	3,500	3,000	2,500	3,000	2,500
Balances	$50,000		$12,500*	$12,500*		$12,500*		$12,500*

Schedule 1

Q, R, S, AND T
Computation of Installment Payments to Partners
(Starred Items are Credits)

	Q	*R*	*S*	*T*
Profit and loss ratio	25%	25%	25%	25%
First installment:				
Balances before payment to partners—Exhibit A:				
Capitals	$18,000*	$16,000*	$15,000*	$15,000*
Loans			3,000*	3,000*
Totals	$18,000*	$16,000*	$18,000*	$18,000*
Possible charges—Noncash assets, $50,000—Exhibit A	12,500	12,500	12,500	12,500
Possible credit balances and safe payment to partners	$ 5,500*	$ 3,500*	$ 5,500*	$ 5,500*
Payment on:				
Loans			$ 3,000	$ 3,000
Capitals	$ 5,500	$ 3,500	2,500	2,500
Total	$ 5,500	$ 3,500	$ 5,500	$ 5,500

Case 6. Certain partners have loans; one partner's total of capital and loan is less than his possible future loss. The partners share profits and losses equally. The trial balance follows:

Cash	10,000	
Other assets	45,000	
U, capital		25,000
V, capital		15,000
V, loan		3,000
W, capital		5,000
W, loan		7,000
	55,000	55,000

Although the cash on hand for distribution is exactly equal to the partners' loans of $10,000, the case cannot be dismissed by the statement that partners' loans should be paid before capitals, and that the entire $10,000 should therefore be used for the payment of the loans of *V* and *W*. It is necessary to determine the possible future loss chargeable to each partner, and pay only those partners who have capitals (or capitals and loans) in excess of their possible losses.

The partial liquidation statement and supporting schedule are on page 63.

Unpaid liabilities. If payments are made to partners in installments before the creditors are paid, the liquidator runs the risk of finding himself in a position where he cannot pay the creditors in full because of his inability to realize on the assets. He may be able to recover some of the amounts paid to the partners, and thus pay the creditors; but if he is unable to do this, he may be held personally liable to the creditors. To avoid placing himself in such a position, the liquidator should either refuse to make payments to the partners until the creditors have been paid, or withhold sufficient cash to provide a fund with which the creditors can be paid in full, and should distribute only the remaining cash to the partners.

Ascertaining possible future loss when cash is not distributed. If the cash withheld from distribution to the partners is equal to the recorded unpaid liabilities, it can be ignored in the computation of possible future losses; the amount of the noncash assets should be considered to be the amount of the possible future loss.

Any withheld cash in excess of the recorded liabilities should be added to the noncash assets in the determination of the possible future loss. It should be assumed that such cash is withheld for the payment of unrecorded liabilities or for possible future expenses.

Case 6.

Exhibit A

U, V, AND W
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets		*U*	*V*		*W*	
	Noncash	Cash	Capital	Loan	Capital	Loan	Capital
First installment:							
Balances before payment to partners	$45,000	$10,000	$25,000*	$3,000*	$15,000*	$7,000*	$5,000*
Payment to partners—Schedule 1		10,000*	8,500	1,500			
Balances	$45,000		$16,500*	$1,500*	$15,000*	$7,000*	$5,000*

Schedule 1

U, V, AND W
Computation of Payments to Partners
(Starred Items are Credits)

	U	*V*	*W*
Profit and loss ratio	⅓	⅓	⅓
First installment:			
Balances before payment to partners—Exhibit A:			
Capitals	$25,000*	$15,000*	$ 5,000*
Loans		3,000*	7,000*
Total	$25,000*	$18,000*	$12,000*
Possible charges—Noncash assets, $45,000—Exhibit A	15,000	15,000	15,000
Possible balances	$10,000*	$ 3,000*	$ 3,000
Additional possible charges—Account of *W*, $3,000	1,500	1,500	3,000*
Possible credit balances, and safe payment to partners	$ 8,500*	$ 1,500*	
Payment on:			
Loan		$ 1,500	
Capital	$ 8,500		

Second Method

Installment distribution plan. Instead of calling in an accountant periodically, after cash has been accumulated, to compute the payments which can safely be made to partners in each installment distribution, partners may ask the accountant to prepare an installment distribution plan which they can themselves apply to determine how cash should be distributed to them as and when it becomes available. Or the accountant may prepare such a plan for his own use (as an alternative to the First Method) in determining how successive installments should be distributed.

The procedure for making and applying a distribution plan is shown in the three following illustrations.

First illustration. Assume that four partners, about to liquidate, have noncash assets of a book value of $59,000, no cash, liabilities totaling $5,000, and capitals and profit and loss ratio as follows:

Partner	Capital	Profit and Loss Ratio
A	$17,000	25%
B	15,000	25
C	14,000	25
D	8,000	25

Preparation of a distribution plan. The steps in the preparation of a plan for the distribution of such cash as may become available are shown below.

First step:

(*a*) *Determine, for each partner, the amount of loss which will extinguish his capital account and thus eliminate him from any cash distribution. This is done by dividing his capital account balance by his profit and loss per cent.*

(*b*) *Indicate the sequence in which the partners' capitals would be extinguished.*

Partner	Capital	Profit and Loss Ratio	Quotient	Sequence of Extinguishment
A	$17,000	25%	$68,000	4
B	15,000	25	60,000	3
C	14,000	25	56,000	2
D	8,000	25	32,000	1

Second step:

Compute the balances which would remain in the partners' accounts after charging losses in amounts sufficient to extinguish partners' accounts in the above-indicated sequence. The computation is shown on page 65.

Computation for Second Step

	Noncash Assets	Liabilities	Partners' Capitals A	B	C	D
Balances	$59,000	$5,000	$17,000	$15,000	$14,000	$8,000
Loss which would eliminate *D* from participation in cash distributions	32,000		8,000 (1/4)	8,000 (1/4)	8,000 (1/4)	8,000 (1/4)
Balances	$27,000		$ 9,000	$ 7,000	$ 6,000	
Additional loss which would eliminate *C* from participation in cash distributions. (After the elimination of *D*, losses will be charged to the other partners in thirds. The loss required to extinguish *C*'s account is therefore $6,000 × 3.)	18,000		6,000 (1/3)	6,000 (1/3)	6,000 (1/3)	
Balances	$ 9,000		$ 3,000	$ 1,000		
Additional loss which would eliminate *B* from cash distribution —$1,000 × 2	2,000		1,000 (1/2)	1,000 (1/2)		
Balances	$ 7,000	$5,000	$ 2,000			

Third step:

Prepare a schedule for the distribution of cash as it becomes available; this is done by beginning with the bottom line of the tabulation on page 65, and working upward.

	Cash	Liabilities	Partners' Capitals A	B	C	D
First	$ 5,000	$5,000				
Next	2,000		$2,000			
Next	2,000		½	½		
Next	18,000		⅓	⅓	⅓	
Next	32,000		¼	¼	¼	¼
Any additional cash resulting from gain on realization			¼	¼	¼	¼

Application of distribution plan. The data used in the preparation of the distribution plan were those of Case 1 on page 51. The assumed facts relative to asset realizations were:

	First Period	Second Period
Book value of assets realized	$34,000	$25,000
Loss on realization	4,000	16,000
Available cash	$30,000	$ 9,000

The losses will, of course, be shown in the liquidation statement; but to determine how the cash distributions should be made, we need only apply the distribution plan to the amounts of available cash.

Schedule of Cash Payments Computed by Using the Distribution Plan

	Cash	Liabilities	Partners' Capitals A	B	C	D
First installment:						
First	$ 5,000	$5,000				
Next	2,000		$2,000			
Next	2,000		1,000	$1,000		
Next	18,000		6,000	6,000	$6,000	
Remaining	3,000		750	750	750	$ 750
Total	$30,000	$5,000	$9,750	$7,750	$6,750	$ 750
Second installment:						
In the $32,000 bracket	$ 9,000		$2,250	$2,250	$2,250	$2,250

The liquidation statement is on page 67. It is the same as the one on page 52.

A, B, C, AND D
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals			
	Noncash	Cash	Liabilities	*A*	*B*	*C*	*D*
Balances before realization	$59,000		$5,000*	$17,000*	$15,000*	$14,000*	$8,000*
Realization and loss	34,000*	$30,000		1,000	1,000	1,000	1,000
Balances	$25,000	$30,000	$5,000*	$16,000*	$14,000*	$13,000*	$7,000*
Payment of liabilities		5,000*	5,000				
Balances	$25,000	$25,000		$16,000*	$14,000*	$13,000*	$7,000*
Payment to partners—per schedule		25,000*		9,750	7,750	6,750	750
Balances	$25,000			$ 6,250*	$ 6,250*	$ 6,250*	$6,250*
Realization and loss	25,000*	$ 9,000		4,000	4,000	4,000	4,000
Balances		$ 9,000		$ 2,250*	$ 2,250*	$ 2,250*	$2,250*
Payment to partners—per schedule		9,000*		2,250	2,250	2,250	2,250

Second illustration. In the preceding illustration, the partners shared profits and losses equally. Unequal profit and loss per cents will not alter the method of preparing cash distribution plans. To illustrate, assume the facts of the preceding example, but with the following profit and loss ratio:

A...........	40%
B...........	30
C...........	10
D...........	20
	100%

The schedule below indicates the order in which the partners may encounter deficiencies from realization losses.

Partner	Capital Account Balance	Profit and Loss Ratio	Quotient	Sequence of Extinguishment
A.............	$17,000	40%	$ 42,500	2
B.............	15,000	30	50,000	3
C.............	14,000	10	140,000	4
D.............	8,000	20	40,000	1

With the order thus indicated, the schedule on page 69 can be prepared.

A, B, C, AND D
Schedule Showing Distribution of Possible Losses

	Noncash Assets	Liabilities	Partners' Capitals *A*	*B*	*C*	*D*
Balances	$59,000	$5,000	$17,000	$15,000	$14,000	$8,000
Loss which would eliminate *D* from participation in cash distributions	40,000		16,000 (4/10)	12,000 (3/10)	4,000 (1/10)	8,000 (2/10)
Balances	$19,000		$ 1,000	$ 3,000	$10,000	
Additional loss which would eliminate *A* from participation in cash distributions	2,000		1,000 (4/8)	750 (3/8)	250 (1/8)	
Balances	$17,000			$ 2,250	$ 9,750	
Additional loss which would eliminate *B* from participation in cash distributions	3,000			2,250 (3/4)	750 (1/4)	
Balances	$14,000	$5,000			$ 9,000	

The data in the possible loss schedule on page 69 were used in the preparation of the following cash distribution schedule.

A, B, C, AND D
Cash Distribution Schedule

	Cash	Liabilities	Partners' Capitals A	B	C	D
First	$ 5,000	$5,000				
Next	9,000				$9,000	
Next	3,000			3/4	1/4	
Next	2,000		4/8	3/8	1/8	
Next	40,000		4/10	3/10	1/10	2/10
Any additional cash received			4/10	3/10	1/10	2/10

The assumed facts relative to asset realizations in the preceding illustration were:

Assumed Facts Relative to Asset Realizations

	First Period	Second Period
Book value of assets realized	$34,000	$25,000
Loss on realization	4,000	16,000
Available cash	$30,000	$ 9,000

The schedule of cash payments appears below, and the statement of partnership liquidation is on page 71.

A, B, C, AND D
Schedule of Cash Payments

	Cash	Liabilities	Partners' Capitals A	B	C	D
First installment:						
First	$ 5,000	$5,000				
Next	9,000				$ 9,000	
Next	3,000			$2,250	750	
Next	2,000		$1,000	750	250	
Next	11,000		4,400	3,300	1,100	$2,200
Total	$30,000	$5,000	$5,400	$6,300	$11,100	$2,200
Second installment:						
In the $40,000 bracket	$ 9,000		$3,600	$2,700	$ 900	$1,800

A, B, C, AND D
Statement of Partnership Liquidation
(Starred Items are Credits)

	Assets			Partners' Capitals			
	Noncash	Cash	Liabilities	*A*	*B*	*C*	*D*
Balances before realization	$59,000		$5,000*	$17,000*	$15,000*	$14,000*	$8,000*
Realization and loss	34,000*	$30,000		1,600	1,200	400	800
Balances	$25,000	$30,000	$5,000*	$15,400*	$13,800*	$13,600*	$7,200*
Payment of liabilities		5,000*	5,000				
Balances	$25,000	$25,000		$15,400*	$13,800*	$13,600*	$7,200*
Payment to partners—per schedule		25,000*		5,400	6,300	11,100	2,200
Balances	$25,000			$10,000*	$ 7,500*	$ 2,500*	$5,000*
Realization and loss	25,000*	$ 9,000		6,400	4,800	1,600	3,200
Balances		$ 9,000		$ 3,600*	$ 2,700*	$ 900*	$1,800*
Payment to partners—per schedule		9,000*		3,600	2,700	900	1,800

Third illustration. In the preceding illustrations of cash distribution plans, the partners had no loan accounts. If partners' loan accounts are present, their balances should be combined with the related capital account balances for purposes of determining a cash distribution plan. It is the total equity of each partner, including loans, that is relevant in determining the division of cash sums available for installment distribution.

As noted earlier in this chapter, if installment distributions are being made to partners, the rule that partners' loans have priority over capital account claims does not necessarily govern. The total possible future loss of each partner should be compared with the aggregate of his capital and loan account balances. An installment payment should be made only to a partner whose total equity is in excess of his share of total possible losses.

The effect of partners' loans can be demonstrated by referring to the preceding illustration. Assume the same facts with two exceptions:

(1) A portion of the equity of partner *A* and of partner *B* is represented by a loan, as follows:

Partner	Loan	Capital	Total Equity	Profit and Loss Ratio
A	$1,000	$16,000	$17,000	40%
B	2,000	13,000	15,000	30
C		14,000	14,000	10
D		8,000	8,000	20
Totals	$3,000	$51,000	$54,000	100%

Since the total equity of each partner is the same as his equity in the preceding illustration, and the profit and loss ratio is unchanged, the plan covering the distribution of available cash is unchanged; however, the first cash paid to *A* and *B* will be applied against their loans.

(2) It is now assumed that cash becomes available for distribution as follows:

End of first period	$15,000
End of second period	4,000
End of third period	10,000

A schedule showing cash distributions appears on page 73.

A, B, C, AND D
Schedule of Cash Payments

	Cash	Liabilities	*A* Loan	*A* Capital	*B* Loan	*B* Capital	*C* Capital	*D* Capital
First installment:								
First	$ 5,000	$5,000						
Next	9,000						$9,000	
Next (3/4 to *B*, 1/4 to *C*)	1,000				$ 750		250	
	$15,000	$5,000			$ 750		$9,250	
Second installment:								
First (3/4 to *B*, 1/4 to *C*)	$ 2,000				$1,250	$ 250	$ 500	
Next (4/8 to *A*, 3/8 to *B*, 1/8 to *C*)	2,000		$1,000			750	250	
	$ 4,000		$1,000		$1,250	$1,000	$ 750	
Third installment:								
All applicable to $40,000 bracket	$10,000			$4,000	$3,000	$1,000	$2,000	

CHAPTER FIVE

Venture Accounts

Nature of ventures. It is difficult to define a business venture, because ventures may be conducted in so many different ways and may be used to carry on almost any phase or aspect of business activity. In general, and in its traditional meaning, a venture may be thought of as a more or less speculative undertaking (usually not a part of the regular business operations of the participant or participants) involving certain specific goods and terminating when these goods are disposed of.

Years ago, before the present methods of foreign trade had been developed, a popular form of venture consisted of placing merchandise in the charge of the captain of a vessel, to be sold or bartered at his discretion in some foreign port. With foreign trade now on a basis of regularly conducted purchases and sales, this form of venture is no longer common, but the idea that the term *venture* implies the shipment of merchandise still persists. This idea is erroneous and places an unwarranted limitation on the term. While it is true that ventures can be formed for the purpose of buying merchandise in one location and selling it in another, ventures may relate to almost any type of business, including real estate development projects and speculation in securities, and to any part of business, such as research, promotion, distribution, or production.

Single and joint ventures. Just as a business may be conducted by an individual or by a partnership, so ventures may be *single* or *joint*. If the venture is conducted by one individual or

business, it is a *single venture.* If two or more individuals or businesses participate in the venture, it is a *joint venture.*

Single ventures. If a venture is conducted by one individual or business as sole owner, the accounting is usually very simple. An account may be opened with the venture and charged with the cost of the merchandise and with all expenses and credited with the proceeds. The balance of the account is the gain or loss.

Joint ventures. If two or more individuals or businesses engage in a venture, a partnership relation exists. Each participant may contribute merchandise or money, each may pay expenses, and each will share in the resulting gain or loss. As in any other partnership, gains or losses will be shared in accordance with the partnership agreement; if there is no agreement, they will be shared equally, regardless of relative investments.

Joint venture accounting. There are two distinct methods of recording the transactions of a joint venture, the method to be chosen depending upon whether the venture is to be of sufficient duration and complexity to warrant keeping a separate set of books for it. These two methods may be described as follows:

(1) No separate set of books for the venture.
    Each participant records all of the venture transactions in his own books.

(2) A separate set of books for the venture.
    All of the venture transactions are recorded in the venture books.
    Each participant records in his own books only the transactions to which he is a party.

First method of accounting. Each participant opens in his own books an account with the joint venture, and an account with each of the other participants. Transactions are recorded in the books of all parties as follows:

(1) Merchandise contributions:
    The party contributing the merchandise debits Joint Venture and credits Inventory (if the merchandising accounts are kept on a perpetual inventory basis) or Merchandise Contributed to Joint Venture (if the accounting is on a periodical inventory basis). Each of the other participants debits Joint Venture and credits the participant making the contribution.

(2) Cash payments for the venture:
    The party making a payment, either for merchandise or for expense, debits the Joint Venture account and credits Cash.

The other participants debit Joint Venture and credit the participant who made the payment.

(3) Cash given by one participant to another to be used for joint-venture purposes:

The participant furnishing the money debits the account with the participant receiving it and credits Cash.

The participant receiving the money debits Cash and credits the participant providing the money.

Other participants debit the participant receiving the money and credit the participant furnishing it.

When this money is later spent for the venture, entries are made as indicated in (2).

(4) Sales for cash:

The participant making the sale debits Cash and credits Joint Venture.

The other participants debit the participant who received the cash and credit Joint Venture.

(5) Sales on account:

The participant making the sale debits Accounts Receivable—Joint Venture and credits the Joint Venture account.

The other participants debit the participant making the sale and credit Joint Venture.

(6) Loss from bad debts:

The participant who made the sale and is carrying the account debits Joint Venture and credits Accounts Receivable—Joint Venture.

The other participants debit Joint Venture and credit the participant carrying the account.

(7) Expenses paid by participants:

If the expenses are paid in cash specifically for the venture, entries are made as in (2).

But the expense may have been part of a total payment charged by the participant to some expense account; in such a case, when the amount applicable to the venture is ascertained:

The participant who paid the expense debits Joint Venture and credits the appropriate expense account.

The other participants debit Joint Venture and credit the participant making the charge.

(8) Salary allowed to managing participant:

The participant receiving the salary debits Joint Venture and credits Salary Income.

The other participants debit the Joint Venture account and credit the account of the participant who is allowed the salary.

(9) Commissions allowed to managing participant:

If commissions are allowed on purchases:

The managing participant debits Joint Venture for the cost of the merchandise plus the commission and credits Cash and Commissions Earned.

The other participants debit Joint Venture for cost plus commission and credit the participant making the purchase.

If commissions are allowed on sales:

The managing participant debits Cash (or Accounts Receivable), credits Commissions Earned, and credits Joint Venture for the net amount of the sale.

The other participants debit the participant making the sale and credit the Joint Venture account for the net amount.

(10) Withdrawals of cash:

The participant receiving the money debits Cash and credits the participant sending the money.

The participant sending the money debits the participant receiving it and credits Cash.

The other participants debit the participant receiving the cash and credit the participant sending it.

(11) Withdrawals of merchandise:

The participant receiving merchandise debits Inventory (perpetual inventory basis) or Merchandise Received from Joint Venture (periodical inventory basis) and credits Joint Venture.

The other participants debit the one receiving the merchandise and credit Joint Venture.

(12) Interest:

It is sometimes considered equitable to allow interest on investments from the date of each investment to the date of settlement, and to charge interest on withdrawals from the date of each withdrawal to the date of settlement.

The net credit or debit is computed, and an entry is made on each participant's books as follows:

Debit Joint Venture for total.
Credit Interest Earned for own allowance.
Credit other participants for their allowances.

(13) Distribution of gain:

After the venture has been completed, the balance of the Joint Venture account will be the amount of the gain or loss. Assuming that a gain has been made, each participant will close the Joint Venture account by an entry as follows:

Debit Joint Venture for total gain.
Credit Gain on Joint Venture for own share.
Credit other participants for their shares.

(14) Final settlement:

Each participant has an account with each other participant. To illustrate, assume that the books of three joint-venture participants contain the following balances:

	X's Books	*Y*'s Books	*Z*'s Books
Account with *X*..............		$1,000 Cr.	$1,000 Cr.
Account with *Y*..............	$1,500 Cr.		1,500 Cr.
Account with *Z*..............	2,500 Dr.	2,500 Dr.	

X is entitled to receive $1,000 in final settlement of the venture, and *Y* is entitled to receive $1,500; these amounts, totaling $2,500, should be paid to *X* and *Y* by *Z*. When *Z* makes the payments, the following entries are made:

	X's Books		*Y*'s Books		*Z*'s Books	
Debits:	Cash	1,000	*X*	1,000	*X*	1,000
	Y	1,500	Cash	1,500	*Y*	1,500
Credit:	*Z*	2,500	*Z*	2,500	Cash	2,500

Illustration. The following transactions of a joint venture will be used to illustrate the first method of making joint-venture entries. (See pages 80 and 81.)

(1) June 1—*A* ships merchandise to *C*, who is to manage the venture. The merchandise is carried in the perpetual inventory at $3,000.00.
(2) " 1—*A* pays freight on the merchandise, $20.00.
(3) " 1—*A* makes a charge for delivery services of $10.00. As he uses his own delivery equipment, the $10.00 is credited to Delivery Expense.
(4) " 1—*B* sends *C* $2,000.00 in cash.
(5) " 1—*B* sends *C* a thirty-day draft for $1,000.00.
(6) " 5—*C* buys merchandise for the venture at a cost of $1,500.00, and is allowed a 2% purchasing commission.

(7) June 11—*C* discounts *B*'s draft, paying $3.33 discount.
(8) " 11—*C* purchases merchandise at a cost of $4,000.00, and is allowed a 2% purchasing commission.
(9) " 17—*C* pays expenses, $75.00.
(10) " 24—*C* sells merchandise for $3,600.00 and is allowed a 2% commission.
(11) " 26—*C* sends *A* and *B* each one-third of the net proceeds of the sale, keeping one-third thereof himself.
(12) " 30—*C* sells the balance of the merchandise for $6,000.00, and is allowed a 2% commission.
(13) July 1—Interest at 6% is to be credited to all participants on credit entries in their accounts, and charged to them on debit entries. Interest is to be computed from date of entry to July 1. [In the case of the draft given by *B* to *C*, *B* is to be credited and *C* is to be charged with interest on the proceeds of the draft ($996.67) from the date of discount (June 11) to July 1.]
(14) " 1 The gain is divided equally.
(15) " 1—Settlement is made; *C* sends checks to *A* and *B*.

Computation of Interest -(Explanation of Entry 13)

A—Credits:					
June 1	Merchandise	$3,000.00	30 days	$15.00	
" 1	Freight	20.00	30 "	.10	
" 1	Delivery	10.00	30 "	.05	$15.15
Debits:					
June 26	Cash	1,176.00	5 "		.98
					$14.17
B—Credits:					
June 1	Cash	$2,000.00	30 "	$10.00	
" 11	Proceeds of draft	996.67	20 "	3.32	$13.32
Debits:					
June 26	Cash	1,176.00	5 "		.98
					$12.34
C—Credits:					
June 5	Purchase and commission	$1,530.00	26 "	$ 6.63	
" 11	" " "	4,080.00	20 "	13.60	
" 17	Expenses	75.00	14 "	.18	
" 26	Cash to *A* and *B*	2,352.00	5 "	1.96	$22.37
Debits:					
June 1	Cash from *B*	2,000.00	30 "	$10.00	
" 11	Proceeds of *B*'s draft	996.67	20 "	3.32	
" 24	Sale less commission	3,528.00	7 "	4.12	
" 30	" " "	5,880.00	1 "	.98	18.42
					$ 3.95

Entry	*A's* Books	Debit	Credit	*B's* Books	Debit	Credit	*C's* Books	Debit	Credit
(1) June 1	Joint venture	3,000.00		Joint venture	3,000.00		Joint venture	3,000.00	
	Inventory		3,000.00	*A*		3,000.00	*A*		3,000.00
	A contributes merchandise.								
(2) June 1	Joint venture	20.00		Joint venture	20.00		Joint venture	20.00	
	Cash		20.00	*A*		20.00	*A*		20.00
	A pays freight.								
(3) June 1	Joint venture	10.00		Joint venture	10.00		Joint venture	10.00	
	Delivery expense		10.00	*A*		10.00	*A*		10.00
	A charges for delivery.								
(4) June 1	*C*	2,000.00		*C*	2,000.00		Cash	2,000.00	
	B		2,000.00	Cash		2,000.00	*B*		2,000.00
	B sends cash to *C*.								
(5) June 1	*C*	1,000.00		*C*	1,000.00		Notes receivable	1,000.00	
	B		1,000.00	Notes payable		1,000.00	*B*		1,000.00
	B sends 30-day draft to *C*.								
(6) June 5	Joint venture	1,530.00		Joint venture	1,530.00		Joint venture	1,530.00	
	C		1,530.00	*C*		1,530.00	Cash		1,500.00
	C buys merchandise.						Commissions earned		30.00
(7) June 11	*B*	3.33		Interest expense	3.33		Cash	996.67	
	C		3.33	*C*		3.33	*B*	3.33	
	C discounts *B's* draft.						Notes rec. discounted		1,000.00
(8) June 11	Joint venture	4,080.00		Joint venture	4,080.00		Joint venture	4,080.00	
	C		4,080.00	*C*		4,080.00	Cash		4,000.00
	Purchases by *C*.						Commissions earned		80.00
(9) June 17	Joint venture	75.00		Joint venture	75.00		Joint venture	75.00	
	C		75.00	*C*		75.00	Cash		75.00
	Payment of expenses by *C*.								
(10) June 24	*C*	3,528.00		*C*	3,528.00		Cash	3,600.00	
	Joint venture		3,528.00	Joint venture		3,528.00	Joint venture		3,528.00
	Sale by *C*, less commission.						Commissions earned		72.00
(11) June 26	Cash	1,176.00		*A*	1,176.00		*A*	1,176.00	
	B	1,176.00		Cash	1,176.00		*B*	1,176.00	
	C		2,352.00	*C*		2,352.00	Cash		2,352.00
	Remittances by *C* to *A* and *B*.								

		A's Books			*B's* Books			*C's* Books		
(12)	June 30	*C*	5,880.00		*C*	5,880.00		Cash	6,000.00	
		Joint venture		5,880.00	Joint venture		5,880.00	Joint venture		5,880.00
		Sale by *C*, less commission.						Commissions earned		120.00
(13)	July 1	Joint venture	30.46		Joint venture	30.46		Joint venture	30.46	
		Interest earned		14.17	*A*		14.17	*A*		14.17
		B		12.34	Interest earned		12.34	*B*		12.34
		C		3.95	*C*		3.95	Interest earned		3.95
		Credits for net interest. See computation, page 79.								
(14)	July 1	Joint venture	662.54		Joint venture	662.54		Joint venture	662.54	
		Gain on venture		220.85	*A*		220.85	*A*		220.85
		B		220.85	Gain on venture		220.85	*B*		220.85
		C		220.84	*C*		220.84	Gain on venture		220.84
		To close out gain. See venture account below.								
(15)	July 1	Cash	2,089.02		*A*	2,089.02		*A*	2,089.02	
		B	2,053.86		Cash	2,053.86		*B*	2,053.86	
		C		4,142.88	*C*		4,142.88	Cash		4,142.88
		Final settlement payments by *C* to *A* and *B*. See explanatory personal accounts—page 82.								

Joint Venture

(As it will appear on books of *A*, *B*, and *C*)

June 1	Merchandise—*A*		3,000.00	June 24	Sale—*C*	3,528.00
1	Freight—*A*		20.00	30	" "	5,880.00
1	Delivery—*A*		10.00			
5	Purchase—*C*		1,530.00			
11	" "		4,080.00			
17	Expenses—*C*		75.00			
July 1	Interest		30.46			
1	Gain: *A*	220.85				
	B	220.85				
	C	220.84	662.54			
			9,408.00			9,408.00

Participants' Accounts

After completion of the posting of the entries for the transactions of the venture (1 to 12), for the interest (13), and for the distribution of the gain (14), *A*'s account on the books of *B* and *C* will have a credit balance of $2,089.02, which *A* is entitled to receive in settlement.

B's account on the books of *A* and *C* will have a credit balance of $2,053.86, which is the amount *B* is entitled to receive in settlement.

C's account on the books of *A* and *B* will have a debit balance of $4,142.88, which *C* must pay to *A* and *B*: $2,089.02 to *A*, and $2,053.86 to *B*. After these payments have been made and recorded by entry 15, the accounts will appear as follows:

Account with A
(As it will appear on books of *B* and *C*)

June 26	Cash from *C*	1,176.00	June 1	Merchandise to *C*	3,000.00
July 1	" " "	2,089.02	1	Freight	20.00
			1	Delivery	10.00
			July 1	Interest	14.17
			1	Gain	220.85
		3,265.02			3,265.02

Account with B
(As it will appear on the books of *A* and *C*)

June 11	Discount on draft	3.33	June 1	Cash to *C*	2,000.00
26	Cash from *C*	1,176.00	1	Draft to *C*	1,000.00
July 1	" " "	2,053.86	July 1	Interest	12.34
			1	Gain	220.85
		3,233.19			3,233.19

Account with C
(As it will appear on books of *A* and *B*)

June 1	Cash from *B*	2,000.00	June 5	Purchase and commission	1,530.00
1	Draft from *B*	1,000.00	11	Disc. on *B*'s draft	3.33
24	Sale less commission	3,528.00	11	Purchase and commission	4,080.00
30	Sale less commission	5,880.00	17	Expenses paid	75.00
			26	Cash to *A* and *B*	2,352.00
			July 1	Interest	3.95
			1	Gain	220.84
			1	Cash to *A*	2,089.02
			1	" " *B*	2,053.86
		12,408.00			12,408.00

Uncompleted ventures. Prior to the completion of a venture, the venture account may have either a debit balance or a credit

balance. A debit balance will exist in cases where the aggregate investment in the venture exceeds the gross proceeds thus far realized from the venture operations. A credit balance will exist in cases where the gross proceeds realized from the venture exceed the aggregate investment to date.

If the venture account has only debit entries in it, no sales or other revenue transactions having occurred, the debit balance represents the aggregate investment to date in the venture. Such balance, after deduction of the investments made by other participants, should be listed among the assets as an investment if financial statements are prepared at this stage of the venture. The investment may be either a current asset or a noncurrent asset, depending upon the expected duration of the venture. Thus, assuming that the venture will be of short duration, the facts may be presented in the balance sheet in the manner illustrated below:

Current assets:		
Investment in joint venture:		
Assets of venture	$1,500	
Less equity of other participants	950	$550

If both debit and credit entries appear in the venture account, and the venture is uncompleted, the account, whether it has a debit or a credit balance, probably will require adjustment at the time financial statements are prepared. The nature of such adjustment can be illustrated by assuming that *Y* and *Z* each invests merchandise costing $1,000 in a joint venture. Assume the following alternative situations:

(a) One-half of the merchandise is sold for $1,500.
(b) One-half of the merchandise is sold for $2,000.
(c) One-half of the merchandise is sold for $2,500.

The balance in the Joint Venture account and other related facts under each alternative are as follows:

	Balance in Joint Venture Account	Inventory on Hand at Cost	Gain on Venture to Date
(a)	$500 (debit)	$1,000	$ 500
(b)	–0–	1,000	1,000
(c)	500 (credit)	1,000	1,500

The entries on the following page, applicable to each of the three above-stated situations, adjust the Joint Venture account to an amount equal to the cost of the remaining merchandise committed to the venture and recognize the gain thus far earned from the uncompleted venture.

	Y's Books			*Z*'s Books	
(a)	Joint venture........	500		Joint venture........	500	
	Gain on venture...		250	*Y*...............		250
	Z...............		250	Gain on venture...		250
(b)	Joint venture........	1,000		Joint venture........	1,000	
	Gain on venture...		500	*Y*...............		500
	Z...............		500	Gain on venture...		500
(c)	Joint venture........	1,500		Joint venture........	1,500	
	Gain on venture...		750	*Y*...............		750
	Z...............		750	Gain on venture...		750

Assuming that *Y* is managing the venture, the relevant accounts on *Y*'s books would, under case (a), appear as follows:

Joint Venture

Debit			Credit		
Merchandise	(1)	1,000	Sale	(3)	1,500
Merchandise	(2)	1,000			
Adjustment	(4)	500			

Z

Debit			Credit		
			Merchandise	(2)	1,000
			Adjustment	(4)	250

Cash

Debit			Credit		
Proceeds from sale	(3)	1,500			

Inventory

Debit			Credit		
Balance		xxxx	Transferred to Joint Venture	(1)	1,000

Gain on Venture

Debit			Credit		
			Adjustment	(4)	250

If *Y* prepared financial statements at this stage of the venture, the following balance sheet disclosure would be acceptable:

Current liabilities:		
Liability to other participant in joint venture:		
Participant's unwithdrawn investment and profits.......	$1,250	
Less joint venture assets...........................	1,000	$250

If the venture is highly speculative, it may be hazardous to take up any interim gain before the venture is completed. However, if the venture has progressed to the point where a credit balance appears in the Joint Venture account, the account may at least be adjusted to zero, thereby recognizing a gain equal to the credit balance. Of course, if it were likely that future expenses would exceed future revenues, it would be inadvisable to take up any interim gain on the venture.

Second method of accounting. Assume that a separate set of books is kept for the transactions of the venture. Entries on pages 85 and 86 show how the illustrative transactions would be recorded in the books of the three participants and in the separate venture set. The entries are numbered to correspond with the statement of transactions beginning on page 78. All of the participants' books are assumed to be kept on a periodical inventory basis.

	Venture Books			A's Books			B's Books			C's Books		
(1)	Purchases........	3,000.00		Joint venture...	3,000.00							
	A..........		3,000.00	Mdse. contributed to j.v..		3,000.00						
(2)	Expense.........	20.00		Joint venture...	20.00							
	A..........		20.00	Cash.........		20.00						
(3)	Expense.........	10.00		Joint venture...	10.00							
	A..........		10.00	Expense......		10.00						
(4)	Cash...........	2,000.00					Joint venture...	2,000.00				
	B..........		2,000.00				Cash.........		2,000.00			
(5)	Notes receivable..	1,000.00					Joint venture...	1,000.00				
	B..........		1,000.00				Notes payable.		1,000.00			
(6)	Purchases........	1,500.00										
	Cash........		1,500.00									
	Commissions.....	30.00								Joint venture.....	30.00	
	C..........		30.00							Commissions....		30.00
(7)	Cash...........	996.67					Interest expense.	3.33				
	B..............	3.33					Joint venture.		3.33			
	Notes rec. disc..		1,000.00									
(8)	Cash*..........	2,503.33								Joint venture.....	2,503.33	
	C............		2,503.33							Cash..........		2,503.33
	Purchases........	4,000.00										
	Cash..........		4,000.00									
	Commissions.....	80.00								Joint venture.....	80.00	
	C............		80.00							Commissions....		80.00
(9)	Expense.........	75.00								Joint venture.....	75.00	
	C............		75.00							Cash..........		75.00

* Amount which *C* must have contributed from his own funds to provide the cash necessary to make the $4,000.00 purchase.

	Venture Books			A's Books			B's Books			C's Books		
(10)*	Cash	3,528.00								Cash	72.00	
	Commissions	72.00								Commissions		72.00
	Sales		3,600.00									
(11)	*A*	1,176.00		Cash	1,176.00		Cash	1,176.00		Cash	1,176.00	
	B	1,176.00		Joint venture		1,176.00	Joint venture		1,176.00	Joint venture		1,176.00
	C	1,176.00										
	Cash		3,528.00									
(12)	Cash	5,880.00								Cash	120.00	
	Commissions	120.00								Commissions		120.00
	Sales		6,000.00									
	Sales	9,600.00										
	Purchases		8,500.00									
	Expense		105.00									
	Commissions		302.00									
	Revenue and expense		693.00									
(13)	Revenue and expense	30.46		Joint venture	14.17		Joint venture	12.34		Joint venture	3.95	
	A		14.17	Interest		14.17	Interest		12.34	Interest		3.95
	B		12.34									
	C		3.95									
(14)	Revenue and expense	662.54		Joint venture	220.85		Joint venture	220.85		Joint venture	220.84	
	A		220.85	Gain on j. v.		220.85	Gain on j. v.		220.85	Gain on j. v.		220.84
	B		220.85									
	C		220.84									
(15)	*A*	2,089.02		Cash	2,089.02		Cash	2,053.86		Cash	1,737.12	
	B	2,053.86		Joint venture		2,089.02	Joint venture		2,053.86	Joint venture		1,737.12
	C	1,737.12										
	Cash		5,880.00									

* This entry assumes that *C* places in the joint venture Cash account only the net cash proceeds after transferring cash in an amount equal to the selling commission to *C*'s Cash account. The following alternative treatment, leaving the entire sales proceeds in the joint venture Cash account, would be equally acceptable. The final settlement would, of course, allow for *C*'s claim for selling commissions.

Venture Books			C's Books		
Cash	3,600.00		Joint venture	72.00	
Commissions	72.00		Commissions		72.00
Sales		3,600.00			
C		72.00			

(When *A* closes his books, the credit balance in the Merchandise Contributed to Joint Venture account will be closed to Revenue and Expense as an offset to the charges closing the Purchases and beginning Inventory accounts.)

With a separate set of books, it is not necessary to keep the Joint Venture account on the participants' books in a manner which will show the purchases, sales, and expenses of the venture. The gain or loss will be determined from the books of the venture. Nor is it necessary for each participant to keep an account with each other participant, as the books of the venture will show the interest of each participant. Each participant keeps only a Joint Venture or an Investment in Joint Venture account, charging it with what he puts into the venture and with his share of the gains, if any, and crediting it for losses, if any, and with what he takes out. He makes no record of the investments, withdrawals, and expenses of the other participants.

The venture accounts which will appear on the various participants' books are illustrated by the following account kept by *A*:

A's Account with Joint Venture

Merchandise	3,000.00	Cash	1,176.00
Expense	20.00	Cash—final settlement	2,089.02
"	10.00		
Interest	14.17		
Gain	220.85		
	3,265.02		3,265.02

The participants' accounts which will appear on the venture books are illustrated by the following account with *A*:

Joint Venture's Account with A

Cash	1,176.00	Merchandise	3,000.00
Cash—final settlement	2,089.02	Expense	20.00
		"	10.00
		Interest	14.17
		Gain	220.85
	3,265.02		3,265.02

In a similar way, *B*'s account with the venture would be reciprocal with the venture's account with *B*; and the same would apply to *C*'s accounts.

Interest. The computation of interest in the preceding illustrations of the two methods of accounting was based on the assumption that *C*, as manager of the venture, was permitted to merge the venture funds with his own, and was therefore properly chargeable with interest on advances made to him.

Special note. The first method is the one to be used when joint venture accounts are called for in problems and no accounting method is specified.

Use of the corporate form of organization. In recent years there have been instances of joint venturers forming corporations

to carry on special projects. Often the circumstances indicated that the project was not likely to be temporary, and significant amounts of capital were required. Under such an arrangement, the participants took equal shares in the capital stock of the newly-formed corporation. This plan has been adopted in situations where the use of the combined "know how" of the participating businesses appeared necessary or desirable if the undertaking were to be successful. Frequently the venture involved research and development initially, and later the production and sale of new products.

The 1959 annual report to the stockholders of Dow Chemical Company can be cited for examples of such arrangements. The report mentions the following jointly owned (50:50) corporations:

Dow Corning Corporation, owned jointly with Corning Glass Works.
Ethyl-Dow Corporation, owned jointly with Ethyl Corporation.
Dow Badische Chemical Company, owned jointly with BASF Overzee N. W., a subsidiary of a German chemical company.

In a sense, these are modern joint ventures, and their use raises some interesting accounting questions. One of the more difficult questions is whether parent and subsidiary accounting principles and practices should be extended to apply to accounting for 50% investments in jointly owned companies. This question is given some attention in Chapter 25.

CHAPTER SIX

Consignments

Definitions. A consignment is a transfer of possession of merchandise from the owner, called the *consignor,* to another party, called the *consignee,* who becomes the agent of the owner for the purpose of selling the goods. A consignment is a bailment, and the relation between the consignor and the consignee is one of bailment and agency; therefore, a consignment is governed by the laws of bailments and agencies.

From the standpoint of the consignor, a consignment is a consignment out; from the standpoint of the consignee it is a consignment in. A consignment out is sometimes referred to merely as a *shipment,* and a consignment in is sometimes referred to merely as a *consignment.* The use of the terms *shipment* and *consignment* with these special meanings is not general, nor is it to be recommended, because these terms are not self-explanatory and because the word *consignment* is thus given both a general meaning, denoting all consignments, and a special meaning, denoting only consignments in. The terms *consignment out* and *consignment in* are preferable.

Sale and consignment distinguished. The fundamental distinction between a sale and a consignment is this: In a sale the title to the goods passes from the seller to the buyer, whereas in a consignment the title to unsold goods remains with the consignor. This distinction must be borne in mind for three reasons.

First, since a consignment is not a sale, no profit results from the transaction, and none should be taken up, until the goods have been sold by the consignee.

Second, since the title to the goods remains with the consignor, any goods out on consignment must be included in the consignor's inventory when his books are closed.

Finally, if the consignee becomes insolvent, the consignor may be able to recover his goods, in which case he will not have to take his place with the other creditors and receive only a prorata settlement.

Reasons for consignments. The consignor may make a consignment instead of a sale for the following reasons:

(1) For credit purposes. There is less risk in a consignment than in a sale, since the consignor retains title to the goods until the consignee sells them. When a sale of the consigned goods is made, the consignee does not become a general debtor of the consignor; as the agent of the consignor, he must keep the proceeds of the sale separate, and must remit to the consignor according to the consignment agreement.

(2) To introduce a commodity. When the demand for the merchandise is so meager or uncertain that retailers hesitate to purchase, the consignment enables the owner to place his goods before the public.

(3) Sending out goods on consignment to consignees in various locations is an effective way of making market surveys in new territories.

(4) To control the selling price to the consumer.

From the consignee's standpoint, consignments may be preferable to purchases for the following reasons:

(1) Because of market fluctuations. When, as in the case of produce, market prices are subject to sudden, frequent, and considerable fluctuations, there is too much hazard in buying at quotations sent out several days before the goods are received and in selling at market prices prevailing after the goods have been received. The consignment method avoids this risk, because the consignee merely acts as the agent of the consignor, selling the goods at the market price and taking his compensation in commissions.

(2) Because of the danger of tying up capital in unsalable goods. A merchant may feel that the demand for a commodity is too uncertain to warrant purchasing it, although

he may be willing to take the goods on consignment, with no obligation to pay for them until after they have been sold.

Consignment transactions are not so common as they formerly were. This decrease in consignment operations is due partly to the fact that the markets are more highly developed and retailers are more disposed to control their operation through purchases. Also, there has grown up a tendency to make sales with return privileges. Sometimes the purchaser is entitled to make unqualified return and receive a payment in cash; in other cases he is permitted to return the merchandise and obtain a credit against which subsequent purchases can be charged.

Also, with the development of large-scale business operations, the extending of the market is more frequently accomplished by the establishment of sales agencies or branches than by recourse to consignments.

Rights of the consignee. The principal rights of the consignee are:

(1) The right to be reimbursed for advances and expenses. In some instances, particularly where commission merchants handle grain, it is customary for the consignee to make advances to the consignor before the produce is sold. And in nearly all consignments, the consignee usually pays some expenses—cartage, if nothing more. The consignee has a right to be reimbursed for these advances and expenses; in fact, he has a lien on the merchandise to the extent of the advances and the expenses, and he can sell the goods to satisfy the lien. He loses the lien on the goods when he parts with possession of them, but he obtains in its place a lien on the proceeds of the sale.

(2) The right to compensation. Commission merchants usually take, as compensation, a percentage of the gross sales price. Merchants selling manufactured goods, or other merchandise taken on consignment, may receive a commission computed on a percentage basis, or they may retain the amount by which the sale price exceeds a figure stated by the consignor.

(3) Right to warrant. The consignee, in making sales, has authority to make the usual, but not extraordinary, warranties, and the consignor will be bound by such warranties.

(4) Right to extend credit. If the extending of credit is a custom of the business, and if the consignor has not expressly restrained the consignee from extending credit, the consignee has a right to sell goods on account. The account thus created is the property of the consignor, and any loss on the collection of the account must be borne by the consignor. The consignee may, by special agreement, guarantee the accounts; if he makes such a guarantee, he is known as a "*del credere* agent" and is entitled to an extra compensation for assuming the risk incident to the guarantee.

Duties of the consignee. The principal duties of the consignee are:

(1) To care for the consignor's property. It is sometimes said that the consignee must take as good care of the consignor's property as he takes of his own. This is not a good statement of the rule, since the consignee may not take reasonable care of his own goods. The consignee must give the consignor's property such care as an ordinarily prudent man would give them. Having done this, he is not liable for damages to the goods.

(2) To exercise prudence in granting credit and diligence in making collections. This is merely one requirement of the general rule that the consignee, in fulfilling the duties of his agency, must exercise ordinary prudence and diligence.

(3) To keep the consignor's property separate from his own. This duty may be discussed under two headings. First, the consignee must keep the merchandise separate from his own in order that it can be identified as the property of the consignor. This does not mean that there must be actual physical separation, but there must at least be records sufficient to show what property in the consignee's possession belongs to the consignor. Second, if the consignee sells goods on account, he must keep his records in such a way as to make a distinction between his own accounts receivable and accounts receivable originating from sales of consigned goods and thus belonging to the consignor.

(4) To make reports of and settlements for sales in accordance with the terms of the consignments. These terms may require settlement after the sale of the entire consignment, settlement after certain portions of the consignment have been sold, or settlements at stated intervals.

The report of the consignee is called an *account sales*, and is made in a form similar to the one following:

WESTON CO.
Elgin, Illinois

Date ______

Account sales of 5 water heaters

Sold for account and risk of

C. D. Jones & Co.

Chicago, Illinois

Sales:		
5 water heaters at $125.00		$625.00
Charges:		
Freight	$ 15.00	
Local transportation	3.00	
Commission--25% of $625.00	156.25	174.25
Proceeds:		
Check enclosed		$450.75

Consigned merchandise unsold None.

Consignee's entries. Following are the entries to be made by Weston Co. to record the transactions relative to the consignment received from C. D. Jones & Co.

Entry for receipt of goods:

Open a consignment in account and make a memorandum of the number and nature of the articles received, as follows:

Consignment In—C. D. Jones & Co.	
5 water heaters	

Entry for expenses:

Consignment in—C. D. Jones & Co.	18.00	
Cash (or expense accounts)		18.00
For freight, $15.00, and local transportation, $3.00.		

Entry for sales:

Cash	625.00	
Consignment in—C. D. Jones & Co.		625.00

Entry for commission:

Consignment in—C. D. Jones & Co	156.25	
Commissions earned		156.25

Entry for settlement:

Consignment in—C. D. Jones & Co	450.75	
Cash		450.75

After final settlement, the consignment in account will appear as follows:

Consignment In—C. D. Jones & Co.

5 water heaters		Sales—5 heaters	625.00
Freight	15.00		
Local transportation	3.00		
Commission	156.25		
Proceeds remitted	450.75		
	625.00		625.00

Any advances made by the consignee to the consignor may be charged to the consignment in account, since the consignee is entitled to recover both expenses and advances.

Consignment in accounts in the balance sheet. When the consignee closes his books and prepares a balance sheet, some consignment in accounts may have debit balances, representing the excess of expenses, commissions, and advances over the proceeds of sales. These balances represent assets, and should be so shown in the balance sheet. Other accounts may have credit balances, representing the excess of the proceeds of sales by the consignee over his expenses, commissions, and advances. These balances represent liabilities of the consignee to consignors, and should be so shown.

If a controlling account is kept with all consignments in, the balance of the controlling account will be the difference between the debit and the credit balances of the individual accounts. But the balance sheet should show the total debit balances and total credit balances of the individual consignment accounts as assets and liabilities, respectively, and not merely show, as an asset or a liability, the net amount reflected by the balance of the controlling account.

Before the balances to be shown as assets or liabilities are obtained, any commissions which have been earned but not recorded should be put on the books.

To illustrate, assume that the controlling account and the individual accounts in the subsidiary ledger of a consignee appear as shown on the following page.

Consignments In—Controlling Account

Expenses paid	35.00	Sale—water heater	125.00
Advances	150.00	Sale—2 ironing machines	300.00

Consignment In—A

5 water heaters		Sale of 1 heater	125.00
Freight	15.00		
Advances	150.00		

Consignment In—B

6 ironing machines		Sale of 2 machines	300.00
Freight	20.00		

No commissions have been taken up. The rate on both water heaters and ironing machines is 25%; therefore, before the books are closed, the following entry should be made:

Consignment in—*A*	31.25	
Consignment in—*B*	75.00	
Commissions earned		106.25

After this entry is posted, the accounts will appear as follows:

Consignments In—Controlling Account

Expenses	35.00	Sale—water heater	125.00
Advances	150.00	Sale—2 ironing machines	300.00
Commissions	106.25		

This account now has a credit balance of $133.75. But this balance should not appear in the balance sheet, because it is the difference between an asset and a liability. The balance sheet should show the asset represented by the balance of the Consignment In—*A* account, and the liability represented by the balance of the Consignment In—*B* account.

Consignment In—A

5 water heaters		Sale of 1 heater	125.00
Freight	15.00	Balance—down	71.25
Advances	150.00		
Commission	31.25		
	196.25		196.25
Balance (asset)	71.25		

Consignment In—B

6 ironing machines		Sale of 2 machines	300.00
Freight	20.00		
Commission	75.00		
Balance—down	205.00		
	300.00		300.00
		Balance (liability)	205.00

Consignor's records. The entries to be made by a consignor will depend upon conditions which may be outlined as follows:

Sales, cost of goods sold through consignees, and consignment expenses are:
- Kept separate from those associated with regular sales;
- Not kept separate from those associated with regular sales.

The merchandising accounts are kept on:
- A perpetual inventory basis;
- A periodical inventory basis.

Regardless of these various conditions, the consignor will have an account with each consignment. These accounts may be kept in the general ledger, or there may be a controlling account in the general ledger and individual accounts in a subsidiary consignment ledger. The consignment accounts should not be kept in the accounts receivable ledger.

Entries illustrating accounting procedures applicable to the four varying conditions mentioned above are given on pages 97 and 98. The assumed facts are as follows:

C. D. Jones & Co. of Chicago consigned five water heaters to Weston Co. of Elgin, Illinois. The heaters cost the consignor $60.00 each.

The cost of hauling the merchandise to the freight depot in Chicago, paid by the consignor, was $5.00.

Packing costs were estimated to be $6.00; the consignor charges all such costs to a Packing Expense account; the $6.00 regarded as applicable to this consignment is merely a portion of the total of such expenses.

The consignee remitted $450.75 as the proceeds of the consignment. (See account sales, page 93).

CONSIGNMENT SALES KEPT SEPARATE

Perpetual Inventory Basis			Periodical Inventory Basis		
Shipment:					
Consignment out—Weston Co.	300.00		Consignment out—Weston Co.	300.00	
Inventory		300.00	Consignment shipments		300.00
(This entry transfers the cost of the consigned goods to a separate asset account.)			(Instead of crediting the Inventory account, this entry credits Consignment Shipments, which will be closed at the end of the period in the manner shown below.)		
Cartage:					
Consignment out—Weston Co.	5.00		Consignment out—Weston Co.	5.00	
Cash		5.00	Cash		5.00
Packing expense:					
Consignment out—Weston Co.	6.00		Consignment out—Weston Co.	6.00	
Packing expense		6.00	Packing expense		6.00
Sales and proceeds—Reported by account sales:					
Cash	450.75		Cash	450.75	
Consignment sales		450.75	Consignment sales		450.75
(If the consignee reported a sale without remitting the proceeds, the debit would be to Weston Co.—Consignee instead of to Cash. If the sale was made for cash or on credit guaranteed by the consignee, it might be desirable to keep the consignee's account in the general ledger rather than in the subsidiary accounts receivable ledger, in order to indicate the peculiar status of the balance. If the sale was made on credit without guarantee, the account should be kept in the accounts receivable subsidiary ledger, because its balance represents the amount receivable from the purchaser of the goods, who is an ordinary debtor. The consignor may set up an account receivable in the name of the purchaser, rather than in the name of the consignee.)					
Cost of consignment sales:					
Cost of consignment sales	300.00		Cost of consignment sales	300.00	
Consignment expenses	11.00		Consignment expenses	11.00	
Consignment out—Weston Co.		311.00	Consignment out—Weston Co.		311.00
(This entry closes the consignment out with Weston Co. and records the cost of the goods sold through the consignee and the related expenses.)			(This entry closes the consignment out with Weston Co. and records the cost of the goods sold through the consignee and the related expenses.)		
Closing Consignment Shipments:					
			Consignment shipments	300.00	
			Revenue and expense		300.00
			(Closing entry at end of period. In the income statement, consignment shipments are deducted from the total of the beginning inventory and purchases in the determination of cost of goods sold on regular sales.)		

CONSIGNMENT SALES NOT KEPT SEPARATE

Perpetual Inventory Basis			Periodical Inventory Basis		
Shipment:					
Consignment out—Weston Co.	300.00		Consignment out—Weston Co.	300.00	
Inventory		300.00	Consignment shipments		300.00
(To set up consignment asset account by transfer of cost from perpetual inventory account.)			(A memorandum entry to be reversed when the goods are sold. See reversal entry below. These companion accounts are not shown in the financial statements. However, they supply data needed at inventory time, since the goods out on consignment are includable in the consignor's inventory.)		
Cartage:					
Consignment freight and cartage	5.00		Consignment freight and cartage	5.00	
Cash		5.00	Cash		5.00
Packing expense:					
No entry is required. The Packing Expense account already has been charged with the total expense of this nature, and, since the results of consignment sales are not to be shown separately, there is no need to set out the portion of this expense applicable to the consignment.					
Sale and proceeds:					
Cash	450.75		Cash	450.75	
Sales		450.75	Sales		450.75
Cost of sales:					
Cost of sales	300.00				
Consignment out—Weston Co.		300.00			
(To transfer the cost of goods on consignment to the general Cost of Sales account.)					
Reversal of memorandum entry for shipment:					
			Consignment shipments	300.00	
			Consignment out—Weston Co.		300.00
			(Since the goods have been sold, the memorandum record is no longer required.)		

Alternative entries for sales as reported by account sales. When an account sales is received from the consignee, an entry may be made for the net proceeds (as in the foregoing illustrations) or the entry may show the gross amount of the sale and the deductions made by the consignee, as shown below:

Cash	450.75	
Consignment freight and cartage	18.00	
Sales commissions—Consignees	156.25	
Sales (or, Consignment sales)		625.00

Many accountants consider it preferable to follow the method of showing the gross sale price and the consignee's expenses, because of the additional information thus furnished by the accounts.

Consignor's inventory. If any goods sent out on consignment are unsold when the consignor closes his books, they should be included in the consignor's inventory. The inventory value should include the cost of the goods plus any expenses incurred which are applicable to the unsold goods and are properly inventoriable. For example, freight charges paid by the consignee should be included in the inventory figure, but reimbursable advertising expenses paid by the consignee are not considered acceptable additions to inventory cost. They should be expensed.

If the accounts are kept in a manner to show consignment sales separately (on either the perpetual or the periodical inventory basis), the balance of the Consignments Out controlling account (or the sum of the balances of the individual accounts) will represent the inventory of consigned goods (except for unreported expenses paid by consignees that are properly inventoriable), because the Consignments Out account will have been charged with the cost of the goods and with applicable expenses. Its balance will appear in the balance sheet as part of the inventory.

If consignment sales are not kept separate from regular sales, the Consignments Out account will be charged with only the cost of the goods on consignment, and expenses will be charged to the various expense accounts. It is advisable to make memorandum notations of expenses in the explanation columns of the individual consignment out accounts at the same time that the expense accounts are charged; reference to the unclosed consignment out accounts will then show the cost of unsold goods and the expenses applicable to these goods. When the expense accounts are closed, the portions applicable to goods on consignment can be transferred to an account called "Deferred Consignment Expense" and shown with other prepaid expenses in the Current Assets section of the balance sheet or included in the balance sheet valuation of the consigned goods inventory.

When consignment sales are not kept separate and the periodical inventory basis is used, the Consignments Out account is merely a memorandum account to be offset by the related memorandum account, Consignment Shipments. Neither account appears in the financial statements. However, they supply the accountant with information which he can use in recording the ending inventory.

If the goods on consignment are a relatively small portion of the total inventory, the balance sheet need not show the consigned inventory separately. Or details may be presented as follows:

Inventory:		
On hand	$10,000	
On consignment	5,600	$15,600

Advances from consignees. A consignor may, by agreement, draw on the consignee for a portion of the estimated sale price at the time of making the consignment. The amount of such an advance received by the consignor should be credited to the consignee and not to his consignment out account. The consignment out account should reflect an asset value of the goods on consignment, without netting a liability to the consignee for the advance received from him. The advance should be shown as a liability until it is applied in settlement for sales.

Returns of unsold consigned goods. If consigned goods are returned by a consignee, the consignment out account should be reduced by an appropriate reversing entry. Any expenses associated with the consignment effort, whether incurred by the consignor or the consignee, should not be capitalized as part of the inventoriable value of the returned goods. Furthermore, if the returned goods show evidence of wear and tear, it may be necessary to assign them an inventory value below cost.

Partial sales. If the consignee renders an account sales after selling a portion of the consignment, he has a right to deduct from the proceeds of the first sale all expenses incurred on the entire consignment. But the consignor, when recording the settlement, may properly carry forward as an element of the consigned goods inventory only the expenses which are applicable to the unsold goods, provided that they are properly inventoriable.

To illustrate, assume that Weston Co. sold one water heater and rendered an account sales reporting the following facts:

We have sold for your account: 1 water heater		$125.00
We deduct expenses as follows:		
Freight	$15.00	
Local transportation	3.00	
Commission—25%	31.25	49.25
We enclose check for net proceeds		$ 75.75

If consignment sales are kept separate from regular sales, the consignment out account, prior to recording the account sales, will be as follows:

Consignment Out—Weston Co.

Cost of 5 water heaters	300.00		
Cartage	5.00		
Packing expense	6.00		

When consignment sales are kept separate, the entries to record the account sales reporting partial sales are:

Cash	75.75	
Consignment out—Weston Co. (Freight and cartage)	18.00	
Sales commissions—Consignees	31.25	
Consignment sales		125.00
To record the account sales.		
Cost of consignment sales	60.00	
Consignment expenses	5.80	
Consignment out—Weston Co		65.80
To record the cost of goods sold and related consignment expenses.		

Cost of 5 water heaters		$300.00
Cartage	$ 5.00	
Packing expense	6.00	
Expenses paid by consignee	18.00	
Total	$29.00	$300.00
Applicable to unsold heaters—4/5	23.20	240.00
Applicable to partial sale—1/5	$ 5.80	$ 60.00

The above entries are appropriate for both the perpetual inventory basis and the periodical inventory basis. After the above entries have been posted, the consignment out account for Weston Co. will show a balance of $263.20, which is the amount applicable to the unsold heaters remaining on consignment. The account is set forth below.

Consignment Out—Weston Co.

Cost of 5 water heaters	300.00	Cost applicable to the 1 heater sold	65.80
Cartage	5.00	Balance—applicable to 4 heaters—down	263.20
Packing expense	6.00		
Expenses paid by consignee	18.00		
	329.00		329.00
Balance—4 heaters	263.20		

(Refer to page 98 and note that the last entry on the periodical inventory basis closed out the Consignment Shipments account; this entry should be made at the end of the period even though only one, or even none, of the water heaters has been sold.)

The entries presented below illustrate the handling of partial sales when consignment sales are not kept separate.

CONSIGNMENT SALES NOT KEPT SEPARATE

Perpetual Inventory Basis			Periodical Inventory Basis		
Shipment:					
Consignment out—Weston Co	300.00		Consignment out—Weston Co	300.00	
Inventory		300.00	Consignment shipments		300.00
Cartage:					
Consignment freight and cartage	5.00		Consignment freight and cartage	5.00	
Cash		5.00	Cash		5.00
Packing:					
No entry.					
Sales and proceeds:					
Cash	75.75		Cash	75.75	
Consignment freight and cartage	18.00		Consignment freight and cartage	18.00	
Commission	31.25		Commission	31.25	
Sales		125.00	Sales		125.00
To record account sales.			To record account sales.		
Cost of sales:					
Cost of sales	60.00				
Consignment out—Weston Co		60.00			
Cost of machine sold.					
Reversal of memorandum entry for shipment:					
			Consignment shipments	60.00	
			Consignment out—Weston Co		60.00
Adjusting entries if books are closed at this point:					
Deferred consignment expense	23.20		Deferred consignment expense	23.20	
Consignment freight and cartage		18.40	Consignment freight and cartage		18.40
Packing expense		4.80	Packing expense		4.80
To defer ⅘ of expense.			To defer ⅘ of expense.		

Separate account for each consignment. Both the consignor and the consignee should keep a separate account with each consignment. If there are several consignments between the same parties, each consignment must be settled for separately, and the accounts should therefore clearly show the facts relative to each consignment.

CHAPTER SEVEN

Installment Sales

Distinguishing features. An installment sale is a sales arrangement whereby the selling price is collected in periodical installments. A down payment is usually required. The uncollected balance may or may not be subject to interest. Some of the conditions peculiar to installment selling are discussed below:

(A) Since the seller's risk is greatly increased by the deferment of collections, one of the following devices is usually employed to enable the seller to recover the merchandise if collections are not received in accordance with the terms of the contract:

(1) Retention of title by the seller:

(a) By the use of conditional sales contracts, the seller thereby retaining title until the last installment is paid by the purchaser. A transaction in which the seller's protection is obtained in this manner is technically a contract to sell rather than a sale, but this technicality is often disregarded so far as the accounting is concerned.

(b) By the hire-purchase plan, or lease of the property until final payment.

(2) Immediate transfer of title subject to a mortgage for the uncollected installments.

(3) Conveyance to a trustee until the final installment is collected.

(B) Installment sales may be subject to greater collection losses and expenses than are incurred on regular sales.

Collection losses can become heavy because the opportunity to purchase luxuries on the installment plan appeals to people who are not in a financial position to pay for them outright and who, in many cases, are unable or unwilling to pay for them even in installments. The right of recovery of the merchandise is not always an adequate protection to the seller, because of the depreciation of the property as a result of use, because of style changes, and because of the status of the property as second-hand merchandise. Unless care is taken, the period of payment may extend beyond the useful life of the article, and the purchaser therefore may have no incentive to complete the payments; this is particularly true of seasonal merchandise and articles subject to supersession.

Expenses are also likely to be heavy, since the installment method involves additional collection and accounting costs. The seller may find himself obliged to make repairs over a long period, either because of the purchaser's demand enforced by a refusal to pay installments, or because the repairs are necessary to protect the seller's equity in the property. Moreover, tying up capital over a long period in installment receivables can lead to interest expense which may assume considerable proportions.

(C) Expenses applicable to the sale are incurred in accounting periods subsequent to the period of sale. The accounting for installment sales must be based upon a recognition of this fact, as there would not be a realistic matching of revenue and related expense if all of the gross profit were taken up during the period of sale without making provision for the expenses to be incurred in subsequent periods.

Matching revenue and expense. If losses and expenses incident to installment selling are incurred in large amounts in periods subsequent to the period of sale, it may not be easy to devise a method of matching revenue and expense that is capable of producing reasonably precise measurements of periodic net income. The methods described on the following pages have been used.

(1) Take up all of the gross profit in the period of sale, and, by setting up reserves, include among the expenses for the period charges for such "after costs" as bad debt losses, collection expenses, and, if experience warrants, losses from repossessing merchandise. Theoretically, this method is perhaps the best, because its objective is to take up the earnings from the installment sale in the period in which the sale is made. However, in some circumstances it may be virtually impossible to estimate the after costs with any reasonable degree of accuracy, and if this is the case, it is questionable whether the method should be considered acceptable.

There is an additional practical disadvantage to this method: Reserve provisions for collection expenses and costs of reconditioning repossessed merchandise are not allowable deductions for income tax purposes; hence, a company which applies this method for general accounting purposes is required to accumulate some special data for use in the computation of its income tax liability.

(2) Take up the gross profit from such sales in installments on a basis of cash collections. Three methods of taking up the gross profit in installments have been used, and are discussed below, but the first two are rarely desirable and are not recognized for federal income tax purposes.

(a) The first collections are considered a return of cost, and no gross profit is taken up until the collections exceed the cost. This method is usually too conservative, and is not justified unless the property cannot be recovered or unless it would have no net realizable value if recovered.

(b) The first collections are considered profit and the last collections are considered a return of cost. This method is viewed as being unconservative; furthermore, to the extent that it fails to take into consideration the future expenses associated with installment selling, it tends to overstate income.

(c) Each collection is regarded as including gross profit and a return of cost in the same proportion that these two elements were included in the total selling price. Thus, if a sale price of $150 included $100 cost and $50 gross profit, a collection of $15 would be regarded as including a $10 return of cost and $5 gross profit. This method is acceptable for income tax purposes, and this status of acceptability for

tax purposes has had more to do with its widespread use in practice than has accounting theory. The discussion in the following pages deals with this method.

Illustration: SINGLE SALE. As a simple illustration of the accounting procedure applied in taking up gross profits on the basis of the gross profit element included in each collection, let us assume the following facts:

Sale—July 15:	
Selling price	$15,000
Cost	10,000
Gross profit	5,000
Ratio of gross profit to total selling price, 33⅓%.	
Collections during the year of sale:	
Down payment	3,000
Monthly payment	1,500

The entire gross profit is set up (by entries discussed later) in a deferred gross profit account, as follows:

Deferred Gross Profit on Installment Sales

		Total gross profit	5,000

The collections are recorded by debits to Cash and credits to the customer's account. The customer should be charged with the full sale price of the merchandise and credited with the down payment so as to leave a complete record of the transaction in his account. Assuming that installments are collected regularly on the first of each month, the customer's account at the end of the year will appear as follows:

A Customer

July 15 Sale	15,000	July 15	Cash	3,000
		Aug. 1	Cash	1,500
		Sept. 1	Cash	1,500
		Oct. 1	Cash	1,500
		Nov. 1	Cash	1,500
		Dec. 1	Cash	1,500

Since $10,500 has been collected, and since the ratio of gross profit to selling price was 33⅓%, the gross profit regarded as realized is one-third of $10,500, or $3,500. This realized portion of the gross profit is taken into income for the year by the following entry:

Dec. 31	Deferred gross profit on installment sales	3,500	
	Realized gross profit on installment sales		3,500
	To take up as income the portion of the gross profit on installment sales realized by collections.		

The result of this entry is indicated below:

Deferred Gross Profit on Installment Sales

To Realized Gross Profit on Installment Sales	3,500	Total gross profit	5,000

Realized Gross Profit on Installment Sales

		Realized gross profit	3,500

At year end, the Realized Gross Profit on Installment Sales account is closed to Revenue and Expense in the same manner as other income statement accounts are closed.

After the remaining installments are collected, the balance in the Deferred Gross Profit on Installment Sales account will be transferred to Realized Gross Profit on Installment Sales. A subsequent section in this chapter contains a discussion of the disposition in the periodical statements of any balance in the deferred gross profit account.

It should be noted that this method of taking up the gross profit in installments may not necessarily result in an acceptable matching of revenue and expense from the point of view of accounting theory. The measurement of net income would be acceptable if the expenses associated with the installment sale and the related after costs were incurred in the same pattern as the installments are collected. Returning to the illustration, the collections during the first year were \$10,500, or 70 per cent of the \$15,000 sales price; hence, if 70 per cent of the expenses identifiable with the installment sale, other than the cost of goods sold, were incurred in the year of sale, a good matching would result from the use of the installment method.

But if only 20 per cent of the expenses other than the cost of goods sold were incurred and charged during the year of sale, the objective of matching revenue and expense would hardly have been achieved with any reasonable degree of success. The point is, the installment method of accounting does not necessarily assure an acceptable matching of revenue and expense.

Setting up the deferred gross profit account. The procedure for setting up the deferred gross profit account will depend upon whether the merchandise accounting is on a perpetual inventory basis or on a periodical inventory basis. Typical entries by both methods are shown on the following page, it being assumed that three articles of the same kind were purchased and that one was sold. Entries for the down payment of \$3,000 and the monthly installments of \$1,500, part of the assumed data for this illustration, are not shown.

Perpetual Inventory Basis			Periodical Inventory Basis		
Purchase—July 1:					
Inventory	30,000		Purchases	30,000	
Cash		30,000	Cash		30,000
Sale—July 15:					
Installment accounts receivable	15,000		Installment accounts receivable	15,000	
Installment sales		15,000	Installment sales		15,000
Cost of installment sales	10,000				
Inventory		10,000			
Adjusting and Closing—Dec. 31:					
			Inventory	20,000	
			Cost of inst. sales	10,000	
			Purchases		30,000
Installment sales	15,000		Installment sales	15,000	
Cost of inst. sales		10,000	Cost of inst. sales		10,000
Deferred gross profit on installment sales		5,000	Deferred gross profit on installment sales		5,000
Deferred gross profit on installment sales	3,500		Deferred gross profit on installment sales	3,500	
Realized gross profit on installment sales		3,500	Realized gross profit on installment sales		3,500
Realized gross profit on installment sales	3,500		Realized gross profit on installment sales	3,500	
Revenue and expense		3,500	Revenue and expense		3,500

The periodical inventory basis is usually impracticable if merchandise charged to one Purchases account is sold both on ordinary credit terms and on installments. The cost of goods sold, as determined by taking an end-of-year inventory, is the cost of all goods sold, and the cost of the portion sold on installments is not separately determined. Of course, if all kinds of merchandise are sold at the same rate of gross profit or if installment and regular sales are made at the same average gross profit rate (conditions which are unlikely), the deferred gross profit on installment sales can be determined by multiplying the installment sales by the gross profit rate.

Illustration: NUMEROUS SALES. When numerous installment sales are made, it is impracticable to attempt to compute the rate of gross profit on each sale and to apply a separate rate of gross profit to the collections from each sale. Instead, an average rate of gross profit on all installment sales for a year may be applied to the collections on receivables resulting from the sales of that year. To illustrate, assume the facts for the year 1960 stated on the following page.

Installment sales	$150,000
Cost of installment sales	100,000
Gross profit	50,000
Ratio of gross profit to selling price	33⅓%
Collections during 1960	$105,000
Gross profit realized, 33⅓% of $105,000	35,000

The controlling account with installment receivables may be summarized as follows:

Installment Accounts Receivable

Sales	150,000	Collections	105,000

And the deferred gross profit accounts, after the books are closed at the end of the year, will appear as follows:

Deferred Gross Profit on Installment Sales

To realized gross profit	35,000	Total gross profit	50,000

Operations for a series of years. In successive years the rates of gross profit may differ. For this reason, the vendor should classify the accounting data relating to his installment business by years; otherwise, the gross profit recognized in any given year (except the first year of installment operations) will be incorrectly reported. Either of the following methods may be adopted:

(1) The collections on installment sales may be classified by year of sale, thus permitting the use of the appropriate gross profit rates in computing the amount of the deferred gross profit currently realized.

(2) Accounts receivable may be classified by year of sale, thus permitting the determination of the remaining deferred gross profit by applying the relevant gross profit rates to the uncollected installment account balances.

Let us assume that installment sales operations are conducted over a series of years, and that the transactions during three years are as follows:

	1960	1961	1962
Installment sales	$150,000	$200,000	$250,000
Cost of installment sales	100,000	120,000	125,000
Gross profit	$ 50,000	$ 80,000	$125,000
Rate of gross profit	33⅓%	40%	50%
Cash collections:			
On 1960 accounts	$105,000	$ 30,000	$ 15,000
On 1961 accounts		125,000	50,000
On 1962 accounts			175,000
Gross profit realized by collections:			
33⅓% of collections on 1960 accounts	$ 35,000	$ 10,000	$ 5,000
40 % of collections on 1961 accounts		50,000	20,000
50 % of collections on 1962 accounts			87,500

The two methods listed above for the determination of and accounting for the gross profit regarded as realized at the end of each year are illustrated below. The results obtained by the two methods are the same.

First method. To determine the collections applicable to receivables arising in different years and therefore subject to different gross profit rates, the cash receipts book may contain columns headed:

Installment Accounts Receivable—1960
Installment Accounts Receivable—1961
Installment Accounts Receivable—1962

Separate subsidiary ledgers and controlling accounts may be kept with the receivables by years. Such controlling accounts would contain the following data:

Installment Accounts Receivable—1960

Sales	150,000	Collections—1960	105,000
		Collections—1961	30,000
		Collections—1962	15,000

Installment Accounts Receivable—1961

Sales	200,000	Collections—1961	125,000
		Collections—1962	50,000

Installment Accounts Receivable—1962

Sales	250,000	Collections—1962	175,000

Separate deferred gross profit accounts may be kept by years, and transfers from these accounts to Realized Gross Profit on Installment Sales and thence to Revenue and Expense may be made on the basis of the collections shown by the several accounts receivable columns in the cash receipts book. Entries for taking up the realized portions of the gross profit, computed on the basis of cash collections as shown in the foregoing summary of facts, would be:

At the end of 1960:

Deferred gross profit on installment sales—1960	35,000	
Realized gross profit on installment sales		35,000
Gross profit equal to 33⅓% of collections.		

At the end of 1961:

Deferred gross profit on installment sales—1960	10,000	
Deferred gross profit on installment sales—1961	50,000	
Realized gross profit on installment sales		60,000
33⅓% of collections on 1960 accounts, and 40% of collections on 1961 accounts.		

At the end of 1962:

Deferred gross profit on installment sales—1960	5,000	
Deferred gross profit on installment sales—1961	20,000	
Deferred gross profit on installment sales—1962	87,500	
Realized gross profit on installment sales		112,500
$33\frac{1}{3}\%$ of collections on 1960 accounts, 40% of collections on 1961 accounts, and 50% of collections on 1962 accounts.		

By the end of 1962, the deferred gross profit accounts would appear as shown below.

Deferred Gross Profit on Installment Sales—1960

1960 To Realized Gross Profit on Installment Sales	35,000	1960 Total gross profit 50,000
1961 To Realized Gross Profit on Installment Sales	10,000	
1962 To Realized Gross Profit on Installment Sales	5,000	
	50,000	50,000

Deferred Gross Profit on Installment Sales—1961

1961 To Realized Gross Profit on Installment Sales	50,000	1961 Total gross profit 80,000
1962 To Realized Gross Profit on Installment Sales	20,000	

Deferred Gross Profit on Installment Sales—1962

1962 To Realized Gross Profit on Installment Sales	87,500	1962 Total gross profit 125,000

Second method. It is not essential that separate deferred gross profit accounts by years be maintained. One deferred gross profit account will suffice. Likewise, a single accounts receivable controlling account for installment receivables may be used instead of separate controlling accounts by years; this method will avoid the necessity of separate columns in the cash receipts book for collections applicable to different years. However, under an arrangement where such single accounts are used, the installment accounts receivable must be analyzed at the end of each accounting period to determine the uncollected balances arising from sales in various years, and the deferred gross profit applicable to such uncollected balances will be computed on the basis of this analysis.

The second method will be illustrated under the assumption that a single deferred gross profit account and a single installment accounts receivable controlling account are being used. With the same data as in the preceding illustration, a single controlling account with installment receivables would appear as shown on the following page.

Installment Accounts Receivable

	Debits	Credits	Balance
1960: Sales	150,000		
Collections		105,000	
Balance			45,000
1961: Sales	200,000		
Collections		155,000	
Balance			90,000
1962: Sales	250,000		
Collections		240,000	
Balance			100,000

This controlling account gives no indication of the ages of the accounts making up the balance at the end of each year (except the first); however, an analysis of the subsidiary ledger would develop the following information:

Age of Installment Receivables

At the end of 1960:		
Balances of 1960 accounts		$ 45,000
At the end of 1961:		
Balances of 1960 accounts	$15,000	
Balances of 1961 accounts	75,000	90,000
At the end of 1962:		
Balances of 1960 accounts	$ —	
Balances of 1961 accounts	25,000	
Balances of 1962 accounts	75,000	100,000

On the basis of this aging of the receivables, the amount to be *left* in the deferred gross profit account at the end of each year can be determined in the manner shown below.

Computation of Balances to Remain in the Deferred Gross Profit Account

At the end of 1960:		
33⅓% of 1960 receivable balances—$45,000		$15,000
At the end of 1961:		
33⅓% of 1960 receivable balances—$15,000	$ 5,000	
40 % of 1961 receivable balances— 75,000	30,000	35,000
At the end of 1962:		
40% of 1961 receivable balances—$25,000	$10,000	
50% of 1962 receivable balances— 75,000	37,500	47,500

The amounts to be left as deferred gross profit determine the amounts to be transferred to Realized Gross Profit on Installment Sales, as shown below:

1960:	
Gross profit on year's sales	$ 50,000
Balance required, as determined above	15,000
Amount to be transferred to realized gross profit	$ 35,000

1961:	
Gross profit deferred—beginning of year—as above	$ 15,000
Gross profit on year's sales	80,000
Total	$ 95,000
Balance required, as determined above	35,000
Amount to be transferred to realized gross profit	$ 60,000
1962:	
Gross profit deferred—beginning of year—as above	$ 35,000
Gross profit on year's sales	125,000
Total	$160,000
Balance required, as determined above	47,500
Amount to be transferred to realized gross profit	$112,500

The annual journal entries recognizing realized gross profit will be as follows:

At the end of 1960:

Deferred gross profit on installment sales		35,000	
Realized gross profit on installment sales			35,000
Balance before transfer	$50,000		
Amount still deferred	15,000		
Realized	$35,000		

At the end of 1961:

Deferred gross profit on installment sales	60,000	
Realized gross profit on installment sales		60,000
(With explanation of computation)		

At the end of 1962:

Deferred gross profit on installment sales	112,500	
Realized gross profit on installment sales		112,500
(With explanation of computation)		

Following is the deferred gross profit account.

Deferred Gross Profit on Installment Sales

	Debit	Credit	Balance
1960: On 1960 sales		50,000	
To Realized G. P. on Inst. Sales	35,000		
Balance			15,000
1961: On 1961 sales		80,000	
To Realized G. P. on Inst. Sales	60,000		
Balance			35,000
1962: On 1962 sales		125,000	
To Realized G. P. on Inst. Sales	112,500		
Balance			47,500

Departmental rates of gross profit. If a business is divided into several departments with widely differing rates of gross profit, and if the ratios of periodical collections to sales differ by departments, it may be desirable, in the interest of greater accuracy, to keep the records in such a manner that the gross profit rate for

each department for each year can be applied to the cash collections on the departmental installment sales of each year.

The use of an average rate of gross profit will produce the same results as the use of the different departmental rates if the ratio of annual collections to sales is the same in each department. This is shown by the following illustration, in which the departmental rates of gross profit differ, but the ratios of annual collections to sales are uniform: 75% the first year in each department, and 25% the second year.

	Departments A	Departments B	Departments C	Total
1961 sales and gross profits:				
Sales	$100,000	$100,000	$60,000	$260,000
Gross profits	30,000	40,000	28,800	98,800
Rate of gross profit	30%	40%	48%	38%
Collections and realized profits:				
1961:				
Collections (75%)	$ 75,000	$ 75,000	$45,000	$195,000
Gross profit realized:				
Computed by multiplying departmental collections by departmental rates	22,500	30,000	21,600	74,100
Computed by multiplying total collections by average rate				74,100
1962:				
Collections (25%)	$ 25,000	$ 25,000	$15,000	$ 65,000
Gross profit realized:				
Using departmental collections and rates	7,500	10,000	7,200	24,700
Using total collections and average rate				24,700

The use of an average rate of gross profit will not produce the same results as the use of the departmental rates if the ratios of annual collections to sales are not the same in all departments. This is shown by the following illustration, which differs from the preceding one only in the amounts of annual collections.

	Departments A	Departments B	Departments C	Total
1961 sales and gross profits:				
Sales	$100,000	$100,000	$60,000	$260,000
Gross profits	30,000	40,000	28,800	98,800
Rate of gross profit	30%	40%	48%	38%
Collections and realized profits:				
1961:				
Collections	$ 75,000	$ 40,000	$15,000	$130,000
Gross profit realized:				
Using departmental collections and rates	22,500	16,000	7,200	45,700
Using total collections and average rate				49,400

	Departments A	B	C	Total
Collections and realized profits:				
1962:				
Collections	$ 25,000	$ 60,000	$25,000	$110,000
Gross profit realized:				
Using departmental collections and rates	7,500	24,000	12,000	43,500
Using total collections and average rate				41,800
1963:				
Collections			$20,000	$ 20,000
Gross profit realized:				
Using departmental collections and rates			9,600	9,600
Using total collections and average rate				7,600

As indicated by these illustrations, the decision with regard to using departmental rates should depend on whether the variations in gross profit rates *and* collection periods are so great that the extra accounting labor is advisable in order to avoid material inaccuracies.

Trade-ins. Companies making sales on the installment plan frequently find it necessary to accept trade-ins as part of the down payment, and, as a matter of policy, they may give the customer a greater trade-in allowance for his property than it is worth. In such instances, the trade-in should be put on the books as an asset at its estimated market value, and the gross profit on the installment sale should be computed on the basis of such estimated valuation.

Assume, for instance, that a commodity which costs $1,000 normally sells for $1,500. A customer to whom one unit of this commodity was sold was allowed $175 on a trade-in of an article which had an estimated market value of only $125. The deferred gross profit resulting from this transaction would be $450. The entry for the sale could be recorded as follows:

Installment accounts receivable	1,325	
Trade-in inventory	125	
Installment sales		1,450

Expenses and bad debt losses. Two questions arise with respect to expenses other than the cost of goods sold, namely:

(1) Since gross profits are deferred and taken into income on the basis of collections, should expenses of the period of sale be similarly deferred and charged to income on the basis of collections?

There is an element of inconsistency in deferring the gross profit from installment sales and not deferring the expenses incurred in making the sales; this inconsistency is justified by some by reasoning which regards the realization of the gross profit as contingent upon the collection of the accounts, whereas the same contingency is not considered to apply to expenses already incurred. However, as noted earlier, the immediate charge-off of expenses coupled with the deferring of the gross profit could result in a distortion of net income between the accounting periods during which collections are made. To illustrate, assume that an article which cost $1,200 is sold for $1,500; that the expenses connected with the sale were $120; and that $250 of the sale price was collected during the year of sale and $1,250 was collected during the subsequent year. The net income for each year, using the installment basis of accounting, if the expenses of the year of sale are charged off during that year, is computed below:

Sale price	$1,500
Cost	1,200
Gross profit—20%	$ 300

	First Year	Second Year
Collections	$ 250	$1,250
Gross profit	$ 50	$ 250
Expenses	120	—
Net loss	$ 70	
Net income (before charges for any expenses incurred during the second year)		$ 250

If the expenses were deferred and charged off ratably with the gross profit taken up, the results for the two years would be:

	First Year	Second Year
Gross profit	$ 50	$ 250
Expenses	20	100
Net income (subject to charges for expenses incurred in second year)	$ 30	$ 150

Although the deferring of expenses is thus indicated to have some theoretical justification in that a better matching of revenue and expense would be attained, it would usually be difficult, as a practical matter, to determine the

amount of expense which could be properly deferred as applicable to the installment sales.

(2) Expenses will be incurred in periods subsequent to the period in which the sale is made. For example, collection expenses will be incurred and sales commissions may be payable on the basis of amounts collected. Should provisions be made for such expenses?

To set up such provisions by charges against the earnings of the period in which the sales were made appears to be too severe; such a procedure would mean that the sale period would be deprived of the deferred portion of the gross profit but would, nevertheless, be charged with all past and prospective expenses connected with the sale. For this reason, current practice sanctions charging the sale period with the expenses incurred in that period, and charging subsequent periods with the expenses incurred in such subsequent periods.

Defaults and repossessions. If a customer defaults in the payment of installments and if no further collections can be expected, both his account and the deferred profit applicable to the uncollectible installments should be written off.

A default by a customer usually results in a repossession of the merchandise by the seller, and the loss on the uncollectible account is reduced to the extent of the value of the property repossessed. In fact, the value of the property may be sufficient to produce a gain on the repossession.

Several methods have been proposed for accounting for repossessed merchandise. Method (1) below is probably most commonly encountered in practice because it is acceptable for income tax purposes.

Method (1): Take up the repossessed property at its value at time of repossession.

The following illustration appears in the Prentice-Hall *Federal Tax Course* (1959), paragraph 2804.

"Assume that on June 15, 1957, a dealer who reports on the installment basis sold for $100 an article which cost him $60, receiving $20 down, the balance being payable in 16 monthly installments of $5 each. After paying 9 of these installments (6 in 1957 and 3 in 1958), the purchaser defaulted. Under the terms of the agreement, the dealer took back the article which at the time of repossession had a value of $25. The gain on the repossession is computed on the following page.

"Value of property at time of repossession		$25.00
Basis of obligations surrendered (7 unpaid installments):		
Face value (7 × $5)	$35.00	
Less: Unrealized profit (40%)	14.00	21.00
Taxable gain on repossession in 1958		$ 4.00
Profit to be reported on 3 installments paid in 1958 (40% of $15)		6.00
Income in 1958		$10.00

"The repossessed article must be put back in inventory at $25 (its value when repossessed)."

The entry for the repossession is presented below.

Repossessed merchandise inventory	25	
Deferred gross profit on installment sales	14	
Installment accounts receivable		35
Gain on repossessions		4

"If the goods were not recovered, or if they were valueless when recovered, a zero should be substituted for 'Value of property at time of repossession' in the above computation, and the taxpayer would have a deduction of $15 . . . ." (Loss on repossessions of $21 less gross profit realization of $6 from installment collections.)

The entry for the default follows:

Loss on repossessions	21	
Deferred gross profit on installment sales	14	
Installment accounts receivable		35

Method (2): Take up the repossessed property at an amount equal to the uncollected account receivable minus the related deferred (unrealized) gross profit.

Using the facts in the above example, the repossessed property would be recorded in the accounts at $21. The entry would be as follows:

Repossessed merchandise inventory	21	
Deferred gross profit on installment sales	14	
Installment accounts receivable		35

Notice that under this method the taking of possible gains or losses on repossessions is postponed until the repossessed merchandise is resold.

This method is subject to criticism because it places an arbitrary valuation on the repossessed merchandise.

Method (3): Do not take up the repossessed merchandise as an asset at the time it is repossessed, and charge as a loss the entire excess of the balance of the receivable over the related deferred gross profit; when the repossessed merchandise is sold, record the entire selling price as revenue.

This method is sometimes used if the repossessed property has little value, or if its value cannot be estimated with a reasonable degree of accuracy. It should be understood that, if this method is used, statements prepared before the disposal of repossessed property, provided the repossessed items have some value, will misstate the gains or losses on defaults and repossessions and will understate the assets.

The use of the account title "Repossessed Merchandise Inventory" in the foregoing illustrative journal entries presupposes that the perpetual inventory method of merchandise accounting is in operation. If the periodical inventory method is in operation, the word *Inventory* should be omitted from the title, and the account should be understood to be of the same nature as a purchase account.

After merchandise is repossessed, it may appear desirable to make reconditioning expenditures; these may be capitalized if the resulting inventory valuation is not exorbitant in relation to the prospective selling price.

No entries are here given for resales of repossessed merchandise; if resales are made on an installment basis, entries similar to those previously described in this chapter would be made; the reader is equally familiar with the entries to be made if sales are made for cash or on regular credit terms.

Alternative method of recording defaults. The following illustrative entries indicate an alternative procedure for recording defaults and repossessions. Entries for two conditions, both based on the data presented below, are given. It is assumed that sales are credited to an Installment Sales account.

	Receivable	Deferred Gross Profit
Original selling price	$150	$150
Cost		100
Gross profit (33⅓%)		$ 50
Collections	60	
Gross profit applicable to collections (33⅓%)		20
Account balances at date of repossession	$ 90	$ 30
Value of property repossessed, $55.		

First, assume that the default occurs in the year of the sale, before any gross profit has been taken up as realized. The sale entry is reversed, and the balance in the account receivable is closed out; the installments collected and forfeited are recorded as a separate class of revenue; the cost of the property is removed from the regular merchandise accounts, the value of the repossessed property is set up, and the difference between

the original cost of the property and its valuation as a repossession is recorded as a loss.

Installment sales	150	
Installment accounts receivable		90
Revenue from forfeited contract		60
Repossessed merchandise inventory	55	
Loss on repossessions	45	
Merchandise inventory (or Purchases)		100

The net revenue taken up is $60 minus $45, or $15.

Second, assume that the default occurs in a year subsequent to that of the sale, after some portion of the deferred gross profit has been realized and taken up at the end of the preceding year. Referring to the foregoing illustration, and assuming that $45 was collected during the year of sale and $15 during the subsequent year, before default, the entries for the two years will be as shown below.

Year of sale:		
Installment accounts receivable	150	
Installment sales		150
Cash	45	
Installment accounts receivable		45
Installment sales	150	
Cost of installment sales		100
Deferred gross profit on installment sales		50
Deferred gross profit on installment sales	15	
Realized gross profit on installment sales ($33\frac{1}{3}\%$ of $45)		15
Subsequent year:		
Cash	15	
Installment accounts receivable		15
Repossessed merchandise inventory	55	
Deferred gross profit on installment sales ($50–$15)	35	
Loss on repossessions	15	
Installment accounts receivable		90
Revenue from forfeited contract (collection)		15

The $15 loss on the repossession is computed as follows:

Unrecovered cost:	
Cost	$100
Less cost recovery in first year's collections (the collections during the year of repossession are treated wholly as a special class of revenue)—$66\frac{2}{3}\%$ of $45	30
Unrecovered cost	$ 70
Valuation given to repossession	55
Loss on repossession	$ 15

Income statement. The computation of the realized gross profit may be shown in a schedule supporting the income statement, in the manner illustrated on the following page.

Income Statement
Year Ended December 31, 1962

Sales—other than installment sales	$ 60,000
Deduct cost thereof	40,000
Gross profit	$ 20,000
Realized gross profit on installent sales (Schedule 1):	
1960 sales	9,000
1961 sales	25,200
1962 sales	49,500
Total realized gross profit	$103,700
Loss on repossessions	4,000
Gross profit after deducting loss on repossessions	$ 99,700
Selling and general expenses (detailed and deducted in the usual manner)	

Schedule of Realized Gross Profit on Installment Sales — Schedule 1

	1960	1961	1962
Installment sales	$150,000	$175,000	$190,000
Cost of goods sold	90,000	101,500	104,500
Gross profit	$ 60,000	$ 73,500	$ 85,500
Rate of gross profit	40%	42%	45%
Collections in 1962	$ 22,500	$ 60,000	$110,000
Gross profit applicable to collections	9,000	25,200	49,500

Or the income statement may be prepared in the manner illustrated below.

Income Statement
Year Ended December 31, 1962

Sales	$250,000
Deduct cost of goods sold (Exhibit B)	144,500
Gross profit	$105,500
Deduct unrealized gross profit applicable to uncollected installment receivables	36,000
Gross profit realized on 1962 sales	$ 69,500
Add gross profit realized in 1962 on collections of:	
1960 sales	9,000
1961 sales	25,200
Total realized gross profit	$103,700
Loss on repossessions	4,000
Gross profit after deducting loss on repossessions	$ 99,700
Selling and general expenses (detailed and deducted in the usual manner)	

Balance sheet presentation. Installment receivables may be classified as a current asset. This treatment agrees with the position taken by the Committee on Accounting Procedure in *Accounting Research Bulletin* No. 43, where installment receivables are specifically mentioned as acceptable current assets if they conform to normal trade practices. Thus, even though some installment receivables are due more than one year from the balance sheet date, it is permissible to treat the entire amount as a current asset. However, balance sheet usefulness is increased if the installment

accounts receivable are shown by years of maturity or if such facts are shown parenthetically. The latter procedure is illustrated by the following item from a December 31, 1962 balance sheet:

Current assets:	
Installment accounts receivable (of which $18,400 is due during 1964)	$74,700

If gross profits on installment sales are not recognized as earned when the installment sale transactions occur, future expenses and losses associated with such transactions should not be anticipated by current charges against income. However, there is no objection to making an apportionment of the deferred gross profit account to show what portions thereof represent estimated requirements for expenses and uncollectible accounts. In fact, such a procedure may be desirable. If such an apportionment is made, a clearer and more complete picture is presented by the balance sheet. However, it should be understood that, if the deferred gross profit is thus apportioned, the apportionment is made *for balance sheet purposes only*. The deferred gross profit should be transferred to revenue when realized, and losses from uncollectible accounts and expenses associated with the collection of accounts should be expensed as they occur.

Assume that a deferred gross profit balance of $50,000 is estimated to contain the following elements:

Portion of installment accounts receivable which probably will not be collectible	$10,000
Provision for future expense applicable to past sales	15,000
Unrealized net income	25,000

These elements may be classified in the balance sheet as follows:

Allowance (or Reserve) for uncollectible accounts	$10,000
(Deducted from installment accounts receivable)	
Unrealized gain on uncollected installment receivables, against which there will be applied future expenses estimated at $15,000	$40,000
(Traditionally shown as a deferred credit)	

With regard to the location of the Deferred Gross Profit on Installment Sales account on the balance sheet, the traditional procedure, which continues to be acceptable, is to show the deferred gross profit under a deferred income or deferred credit caption above the owners' equity. However, in recent years many accounting writers have strongly supported the opinion that, since the balance sheet is intended to reflect assets and equities, its "right-hand" side should have only two basic classifications: liabilities and owners' equity. This approach creates no difficulties for typical short-run deferred income items, since they ordinarily

result from collections received in advance for delivery of goods or performance of services, thus placing the business under an obligation to outsiders. A liability classification for such items is proper without question. But deferred gross profit on installment sales is of a somewhat different nature, since no obligation to outsiders is involved. This fact has led some accountants to favor showing the deferred gross profit as a contra item to installment accounts receivable. They reason that if the gross profit is being deferred because it is as yet unrealized, then the related asset increment should similarly be considered to be unrealized. Such an objective can be achieved by deducting the entire deferred gross profit from the installment accounts receivable. This practice can be described as acceptable though not widely used, and as more logically applicable when the deferred credit exists without an accompanying obligation on the part of a business either to deliver merchandise, perform services, or permit the use of its assets by another.

If a significant portion of the gross profit realization will be deferred beyond one year, the accountant should consider disclosing the amount, either parenthetically or by a balance sheet footnote, since the information may be significant in forming an opinion regarding financial position.

Contracts to sell. If title is retained until after all or a certain portion of the sale price is collected, the transaction is a contract to sell, and not a sale; and it may be desired to make this distinction in the accounts.

Assume that a company holds land which cost $50,000, and that it contracts to pass title to a certain parcel, which cost $1,000, after the sale price of $1,800 has been collected. When the contract is signed, the following entry may be made:

Contracts receivable	1,800	
Land sold under contract		1,000
Deferred gross profit on installment sales		800

Collections would be recorded and the gross profit taken up in the manner already illustrated. Until title passes, the balances of the Land account and the Land Sold Under Contract account should appear on the balance sheet as follows:

Land	$50,000	
Less land sold under contract—title not passed	1,000	$49,000

When the final installment is received, an entry should be made debiting Land Sold Under Contract and crediting Land.

Interest. If installment sales contracts call for interest on uncollected balances, the interest should be taken into income during the period in which it accrues, irrespective of any interest pay-

ment schedule set forth in the installment sales contract. Three typical conditions regarding interest payments are illustrated; the illustrations are based on a contract requiring the payment of a principal sum of $500 in five annual installments, with 6% interest.

(1) Long-end interest. This term signifies that, on each installment date, the debtor pays one period's interest on the unpaid balance of the debt. As the principal is diminished each period, the interest payments are correspondingly diminished. Contracts calling for the payment of long-end interest may provide for:

(*a*) The payment of an equal periodical sum to apply on the principal, plus an additional sum to cover the interest. Payments under such a contract are illustrated below:

End of Year	Collections: Total	Interest	Principal	Balance of Principal
				$500
1	$130	$30	$100	400
2	124	24	100	300
3	118	18	100	200
4	112	12	100	100
5	106	6	100	

(*b*) The payment of an equal periodical sum to include the accrued interest and a payment on the principal. The computation of the equal periodical payment requires a knowledge of annuities, and is explained in Chapter 12. In the present illustration, five annual payments of $118.70 will cover the interest and principal, as shown below:

End of Year	Collections: Total	Interest	Principal	Balance of Principal
				$500.00
1	$118.70	$30.00	$ 88.70	411.30
2	118.70	24.68	94.02	317.28
3	118.70	19.04	99.66	217.62
4	118.70	13.06	105.64	111.98
5	118.70	6.72	111.98	

(2) Short-end interest. The debtor pays, with each installment, the interest on that installment from the beginning of the contract period to the date of payment.

In the illustration, the debtor would pay $100 per annum on the principal; at the end of the first year, he would pay $100 plus one year's interest thereon; at the end of the second year he would pay $100 plus two years' interest thereon; and so on. It should be noted that, by the short-

end interest method, the annual interest payments increase. The interest accruals and the payments on interest and principal are tabulated below.

	Interest			Principal	
End of Year	Accrued During Year	Paid	Unpaid End of Year	Payment	Balance
					$500
1	$30	$ 6	$24	$100	400
2	24	12	36	100	300
3	18	18	36	100	200
4	12	24	24	100	100
5	6	30		100	

It will be observed, with respect to long-end interest, that all interest accrued during the period is payable at the end of the period; the credits to Interest Earned should therefore agree with the interest collections. For instance, in the first illustration of long-end interest, the entry for interest at the end of the first year will be a debit to Cash and a credit to Interest Earned for $30; at the end of the second year, a debit to Cash and a credit to Interest Earned for $24.

In the case of short-end interest, however, the interest collections do not agree annually with the interest earned. In the third illustration, the entries for interest should be:

First year:

Cash	6	
Accrued interest receivable	24	
Interest earned		30

Second year:

Cash	12	
Accrued interest receivable	12	
Interest earned		24

Third year:

Cash	18	
Interest earned		18

Fourth year:

Cash	24	
Accrued interest receivable		12
Interest earned		12

Fifth year:

Cash	30	
Accrued interest receivable		24
Interest earned		6

CHAPTER EIGHT

Insurance

Introduction. An insurance policy is a contract between an insurance company and the insured, by which the company agrees to pay the insured for a specified damage, loss, or liability, contingent upon the occurrence of some event.

Premiums are usually payable in advance. The rates represent the charge per $100 or $1,000 of insurance carried, and are usually computed on a standard basis which is adjusted, by local factors and indorsement clauses, to the requirements of particular cases. Policies, except those for life insurance, generally cover a period of from one to five years; rate advantages are usually obtained by purchasing policies covering a period of more than one year. Cancellation, if permissible, may be effected by either party upon notice to the other; a specified time must usually elapse before the cancellation becomes effective. If the policy is cancelled by the company, the premium refundable to the insured will be computed on a pro rata basis; if the policy is cancelled by the insured, the premium refundable to him will be computed on a "short rate" basis, and will be less than the unexpired portion of the premium.

Life Insurance

Business uses. Some of the important reasons why a business may insure the lives of its owners or employees are stated on the following page.

(1) To provide funds for the purchase of the shares of a deceased stockholder in a close corporation, and thus keep the stock under the control of interested parties.
(2) To provide funds for the payment of the capital interest of a deceased partner, without placing an undue strain on the working capital.
(3) To compensate for the loss which might result from the death of an important member of the organization.

Beneficiaries. If the insured or his estate is the beneficiary, the premiums are virtually additional salary, and should be so recorded. Such insurance, however, is not customary.

Usually the business is named as the beneficiary. To be so named, the business must have an insurable interest in the life of the person insured. An insurable interest exists if the business has a reasonable ground for expecting some financial benefit or advantage from the continued life of the insured.

Premiums, dividends, and cash and loan values. Life insurance premiums are payable in advance, usually at annual intervals, but sometimes semiannually, quarterly, or monthly. In the illustrations in this chapter, it is assumed that premiums are payable annually.

Life insurance policies may be *participating* or *nonparticipating*. If the policy is of the participating type, there is a prospect that the policyholder will receive annual dividends. Various options may be exercised with respect to the use of life insurance dividends, but in business insurance they are probably applied most frequently as a deduction from the premiums payable. Dividends often are not payable on a policy before the end of the second year of the policy's life.

The *cash surrender value* is the amount which the insurance company will pay to the insured upon cancellation of the policy; a policy usually has no cash surrender value until the end of the third policy year, although the policies of some companies provide for a surrender value at the end of the second year. Term insurance policies have no cash surrender value at any time.

The *loan value* is the amount which the insurance company will loan on a policy maintained in force. The loan value at any date is equal to the cash surrender value at the end of the policy year, minus discount thereon for the period of time from the loan date to the end of the policy year. If a policy has a cash surrender value at the end of the third year, it has a loan value at the beginning of the third year, after the payment of the third year's premium. The following table shows one company's cash surrender values on a

$50,000 straight life policy taken at the age of 35; values are given here for only the earlier years of the policy. The loan values at the beginning of each year were computed by discounting the end-of-year cash value at 6%; that is, the cash value which will be available one year after making the premium payment was divided by 1.06 to determine the loan value at the beginning of the policy year.

Year	Cash Surrender Value at End of Year	Loan Value at Beginning of Year
1	—	—
2	—	—
3	$1,590.50	$1,500.47
4	2,151.00	2,029.25
5	2,908.00	2,743.40
6	3,647.00	3,440.57

The premium less any dividend applied in reduction thereof is the net amount payable to the insurance company. The net premium less the increase in the cash value during the year is the net insurance expense for the year.

Accounting for insurance expense and asset values. The accounting relative to the carrying of life insurance policies requires a recognition of expense and investment elements. But what is the insurance expense for a year? For the policy year, it is the amount of a premium, minus (in the case of a participating policy) a dividend (after the policy has been in force for a sufficient time), and minus (with certain types of policies and after, usually, three years) an increase in an investment value. But should a dividend received at the end of, say, the fifth year be applied as a reduction of the premium of the fifth year or as a reduction of the premium of the sixth year? Should all of the premiums of the first three years be regarded as expense if no cash surrender value is established until the end of the third year, or should the amount shown by the policy as the cash surrender value at the end of the third year be applied ratably as a reduction of the expense during the first three years? Or should the total premium payments during the first three years be carried in suspense until the asset and expense elements thereof can be definitely established at the end of the third policy year?

These problems are further complicated by the fact that the policy year rarely coincides with the company's accounting year; hence, in preparing financial statements, the accountant must give consideration to premiums, dividends, and increases in asset value during two policy years. What constitutes the asset value applicable to a life insurance policy at any date for balance sheet pur-

poses? Should it be based on the cash surrender value at the end of the preceding policy year, or on the cash surrender value at the end of the current policy year? Or should it be determined by an interpolation between these two values? Or should loan values be used? Since premiums are payable at the beginning of the policy year, should unexpired premiums on life insurance policies as well as on fire insurance policies be shown as prepaid expenses in the balance sheet? And, since compound interest computations enter into the insurance company's determination of premiums, cash surrender values, and loan values, should the company owning the policy give any consideration to interest in computing its expense and asset values?

With so many alternatives, it is scarcely surprising that there is no apparent unanimity of accounting opinion with respect to the recording of life insurance expense and asset values. The procedures described in this chapter are not presented as the only acceptable ones; however, they have been checked with, and have received the approval of, well-informed insurance company representatives.

Premiums paid may be charged to Life Insurance Expense or Prepaid Life Insurance. Dividends received should be credited to the account charged with the premium payment. If the dividends are applied in reduction of premiums, the net premium should be charged to Life Insurance Expense or Prepaid Life Insurance; in effect, this practice treats dividends received at the end of any policy year as a reduction of the life insurance expense of the following year.

The cash surrender or loan value of the policy should be set up as an asset, and the annual increase therein reduces the life insurance expense. When the initial investment value is placed on the books during the third year of the policy's life, two-thirds of the initial value should be regarded as applicable to the first two years of the policy's life, and a correction of prior years' earnings should be made, if the amount is material, either by an adjustment of retained earnings or by the use of a special correction account to be shown separately in the income statement; the other one-third should be regarded as a reduction of the current year's insurance expense.

Some companies take up the increase in cash surrender value at the end of the policy year; other companies take up the increase in loan value at the beginning of the policy year. The former procedure, as necessarily modified whenever the policy year and the accounting year do not coincide, will be followed for illustrative purposes.

Dividends are ignored in the illustrations. In the first illustration, it is assumed that the policy anniversary date coincides with the close of the accounting period.

Policy values taken up at end of year. This illustration is based on a straight life policy of $50,000, taken at the age of 35, with an annual premium of $1,405.50. The policy values are the surrender values shown in the table on page 129. In this illustration it is assumed that the charge is made to Life Insurance Expense. The procedure if the charge is made to Prepaid Life Insurance will be discussed later.

Entries for the first four years are given below.

First and second years:

Life insurance expense	1,405.50	
Cash		1,405.50
Entry at beginning of year for payment of premium.		
Revenue and expense	1,405.50	
Life insurance expense		1,405.50
Entry at end of year to charge off expense.		

Third year:

Life insurance expense	1,405.50	
Cash		1,405.50
Entry at beginning of year for payment of premium.		
Cash surrender value of life insurance	1,590.50	
Retained earnings (or, Correction of prior years' earnings) (⅔ of $1,590.50)		1,060.33
Life insurance expense		530.17
Entry to take up cash surrender value at end of year.		
Revenue and expense ($1,405.50 − $530.17)	875.33	
Life insurance expense		875.33
Entry at end of year to charge off expense.		

Fourth year:

Life insurance expense	1,405.50	
Cash		1,405.50
Entry at beginning of year for payment of premium.		
Cash surrender value of life insurance	560.50	
Life insurance expense		560.50
Entry at end of year for increase in cash surrender value from $1,590.50 to $2,151.00.		
Revenue and expense	845.00	
Life insurance expense		845.00
Entry at end of year to charge off expense.		

The results of the above entries are shown in summary form on the following page. It is assumed that the premium date is October 1 and that the accounting period ends on September 30. Credits are indicated by asterisks.

	Life Insurance Expense	Cash Surrender Value	Revenue and Expense	Retained Earnings
Note: Accounting period coincides with policy year.				
First policy year:				
October 1—Premium paid....	$1,405.50			
September 30—Closing..........	1,405.50*		$1,405.50	
Second policy year:				
October 1—Premium paid....	$1,405.50			
September 30—Closing..........	1,405.50*		$1,405.50	
Third policy year:				
October 1—Premium paid....	$1,405.50			
September 30—Surrender value...	530.17*	$1,590.50		$1,060.33*
Closing..........	875.33*		$ 875.33	
Fourth policy year:				
October 1—Premium paid....	$1,405.50			
September 30—Surrender value...	560.50*	560.50		
Closing..........	845.00*		$ 845.00	
Balance sheet.....		$2,151.00		

Accounting period and policy year do not coincide. Assume that October 1 is the premium payment date, but that the books are closed as of December 31. Under such circumstances, adjusting entries will be needed as of December 31 to allocate a portion of the annual premium to expense and, when the policy is old enough to have a cash surrender value, to give recognition to the asset value of the policy as of December 31.

For accounting purposes, the asset value of an insurance policy for a date during the policy year is determined by working with the cash surrender value data for the policy. (In practice there is an alternative: an insurance company is usually willing to supply a policyholder with "cash value" information as of any date requested.) To illustrate, assume that it is necessary for accounting purposes to compute the asset value of the policy whose surrender and loan values are shown on page 129 as of December 31 during the third year of the policy. As in the preceding illustration, it is assumed that the premiums are paid on October 1.

Cash surrender value—end of third year.....................	$1,590.50
Amount thereof applicable to first two years—⅔ of $1,590.50..	1,060.33
Amount applicable to third year..........................	$ 530.17
Asset value applicable to first 2 years.......................	$1,060.33
Adjustment for 3 months—¼ of $530.17.....................	132.54
Asset value as of December 31 during third policy year........	$1,192.87

The asset value for accounting purposes as of December 31 during the fourth policy year is similarly computed by interpolating between the cash surrender values at the third and fourth policy year ends.

Cash surrender value—end of fourth year	$2,151.00
Cash surrender value—end of third year	1,590.50
Increase in surrender value during fourth year	$ 560.50

Cash surrender value—end of third year	$1,590.50
Adjustment for 3 months—¼ of $560.50	140.13
Asset value as of December 31 during fourth policy year	$1,730.63

The summary on page 134 shows the accounting entries for the years 1960 through 1963 where the annual premiums are paid on October 1 and the books are closed on December 31. The life insurance policy used for the previous illustrations is used again and it is assumed that the first premium is paid on October 1, 1960. When the policy year does not coincide with the accounting year, most accountants probably prefer to charge the premium payments to a prepaid expense account and transfer the expired portion to an expense account by an adjusting entry. This procedure is used in the summary. Credits are indicated by asterisks.

Effect of dividends. No consideration has been given to dividends in the preceding illustrations. If the dividends are applied in reduction of premiums, they simply reduce the charges to be made to the Life Insurance Expense account or the Prepaid Life Insurance account for premium payments. If they are left with the insurance company to increase the insurance, they increase the cash surrender and loan values. Consequently, they do not affect the principles and methods discussed on the preceding pages; they merely affect the amounts of premiums and asset values.

Balance sheet values. The balance sheet should show the deferred premium and the asset value of the insurance. Referring to the preceding illustration, the balance sheet on December 31, 1963, (the fourth policy year) should show deferred premiums of $1,054.12 and the asset value of $1,730.63 (see page 134). For statement purposes, the asset values computed according to the procedures illustrated may be described as cash surrender values without fear of misleading the statement user.

Deferred premiums should be presented with other items of prepaid expense, as a separate item or combined with unexpired premiums on other types of insurance. Cash surrender or loan values should not be classified as current assets. Such amounts are similar to long-term investments and may be so classified. This treatment conforms with the position taken by the Committee on Accounting Procedure which was discussed in Chapter 3 of the *Intermediate* volume. Prior to the issuance of its Bulletin No. 30 in 1947, it was the practice of some accountants to classify the cash surrender or loan value under the Current Assets caption because it represented a source of immediately available funds.

Summary of Accounting Entries and Account Balances for Life Insurance Policy

Date	Entry	Prepaid Life Insurance	Life Insurance Expense	Asset Value	Revenue and Expense	Retained Earnings
1960						
Oct. 1	First premium paid	$1,405.50				
Dec. 31	Adjustment for expense (Note 1)	351.38*	$ 351.38			
	Closing		351.38*		$ 351.38	
	Balance sheet	$1,054.12				
1961						
Oct. 1	Second premium paid	1,405.50				
Dec. 31	Adjustment for expense (Note 2)	1,405.50*	$1,405.50			
	Closing		1,405.50*		$1,405.50	
	Balance sheet	$1,054.12				
1962						
Oct. 1	Third premium paid	1,405.50				
Dec. 31	Adjustment for expense and asset value (Note 3)	1,405.50*	$ 875.33	$1,192.87		$662.70*
	Closing		875.33*		$ 875.33	
	Balance sheet (Note 4)	$1,054.12		$1,192.87		
1963						
Oct. 1	Fourth premium paid	1,405.50				
Dec. 31	Adjustment for expense and asset value (Note 5)	1,405.50*	$ 867.74	537.76		
	Closing		867.74*		$ 867.74	
	Balance sheet (Note 6)	$1,054.12		$1,730.63		

Note 1. The premium paid on October 1, 1960, is an annual premium; the portion applicable to 1960 (¼ of $1,405.50 = $351.38) is charged to expense by an adjusting entry as of December 31.

Note 2. The expense account should be charged for a full year's premium; observe that, as of December 31, 1961, the prepaid account has a balance of $1,054.12 applicable to the next nine months.

Note 3. For the computation of the asset value, see page 132.

Asset value as of December 31, 1962	$1,192.87

Computation of Expense for 1962

Annual premiums for first 3 years ($1,405.50 × 3)	$4,216.50
Surrender value at end of third year	1,590.50
Expense for 3-year period	$2,626.00
Expense for 1 year—⅓ of $2,626.00	$ 875.33

Computation of Adjustment to Retained Earnings

Surrender value at end of third year	$1,590.50
Amount per month—$1,590.50 ÷ 36 (3 years)	$ 44.18
Amount applicable to period prior to 1962—	
1960— 3 months	
1961—12 months	
Adjustment to Retained Earnings—$44.18 × 15	$ 662.70

Note 4. It is possible to compute the prepaid amount by the following alternative method:

Computation of Balance in Prepaid Life Insurance Account

Portion of expense for third policy year applicable to first 9 months of 1963—¾ of $875.33		$ 656.49
Amount of change in surrender value applicable to third policy year—see computation on page 132	$ 530.17	
Portion applicable to 3 months ended December 31, 1962	132.54	
Portion applicable to first 9 months of 1963		397.63
Account balance—December 31, 1962		$1,054.12

Note 5. For the computation of the asset value, see page 133.

Asset value as of December 31, 1963	$1,730.63
Asset value as of December 31, 1962	1,192.87
Adjustment	$ 537.76

Computation of Expense for 1963

Portion of expense of third policy year applicable to first 9 months of 1963—see Note 4		$ 656.49
Expense for fourth policy year:		
Premium	$1,405.50	
Deduct increase in surrender value ($2,151.00 − $1,590.50)	560.50	
Expense for fourth policy year	$ 845.00	
Portion applicable to 3 months ended December 31, 1963—¼ of $845.00		211.25
Expense for 1963		$ 867.74

Note 6.

Computation of Balance in Prepaid Life Insurance Account

¾ of $1,405.50 (annual premium)	$1,054.12

Or,

Portion of expense for fourth policy year applicable to first 9 months of 1964—¾ of $845.00		$ 633.75
Increase in surrender value during fourth policy year	$ 560.50	
Portion applicable to 3 months ended December 31, 1963	140.13	
Portion applicable to first 9 months of 1964		420.37
Account balance—December 31, 1963		$1,054.12

Banks sometimes make loans against the security of life insurance policies. The note to the bank should be shown in the balance sheet as a liability, current or long-term as the maturity date indicates. The existence of such loan does not affect the classification of the loan or surrender value of the policy, which asset value should be shown as previously indicated because the payment of the loan to the bank will presumably be made from funds other than those potentially available from the life insurance policy. A policy loan from the insurance company itself frequently has been regarded as a withdrawal of, or against, the equity in the policy rather than as a liability, and the balance sheet has shown only the excess of the loan or surrender value over the amount of the loan. It seems preferable to show the loan or surrender value as an asset and the policy loan as a liability.

Settlements. The collection of a life insurance policy by a corporation will be recorded by crediting Retained Earnings or a special income statement account, specifically labelled to denote that the credit is unusual and nonrecurring, with the entire amount received, provided that no asset value for the policy is carried on the books. If there is an account showing the asset value of the policy, it should be credited with a sufficient amount to close it, and the remainder of the settlement proceeds should be credited to Retained Earnings or a special income statement account. A similar treatment of the Prepaid Life Insurance account is required, if such an account is being used.

The entries to be made on the books of a partnership to record the collection of a policy on the life of a partner will depend upon whether the deceased partner's estate as well as the surviving partners is to share in the proceeds. If this is the case, the credit normally will be divided among the accounts of the surviving and deceased partners in their profit and loss ratio. If only the surviving partners are to share in the proceeds, their accounts will be credited in their profit and loss ratio.

Group insurance. The employees of many businesses are participants in group life insurance programs. If the plan is noncontributory, the employer pays the full cost of the plan and charges expense accordingly. As a general rule, the plan is based on the use of one-year renewable-term insurance, and the employer is not the beneficiary. Consequently, there is no asset value to be shown in the accounts.

If the plan is contributory, in which case the covered employees pay part of the premium, the employer usually sets up a withholding arrangement whereby a portion of the annual cost to the employee is withheld regularly from his pay. A special liability account is needed to accumulate the premium withholdings. The accounting

is analogous to the procedures followed in connection with the withholding of federal income tax from employees' pay. The expense to the employer is the difference between the accumulated, aggregate withholding and the annual premium for the insurance.

Fire Insurance

General. Property insurable against fire may be classified as:

Buildings.
Building contents: merchandise, machinery, and so forth.
Miscellaneous property.

The rates for fire insurance depend upon such matters as construction, occupancy, exposure, and protection. *Construction* means the material used and the number of stories in the building insured, or in the building containing the property insured. Construction is evaluated in part by giving consideration to built-in factors which increase or decrease the fire hazard; for example, type of stairwells, presence or absence of fire doors, and thickness of brick or concrete walls. *Occupancy* refers to the hazards resulting from the nature of the business conducted in the building. *Exposure* means the distance from other buildings, and any hazard which might arise from the proximity of dangerous buildings. *Protection* refers to such matters as distance from a fire hydrant, the efficiency of the fire department, the installation of automatic sprinklers, and the employment of watchmen.

It is important to recognize that the insurable value of property is not based on original cost or on original cost less depreciation. Replacement cost new, less, for depreciable property, depreciation based on the age of the property destroyed, usually is the basis for a determination of insurable value. However, allowance is given to factors other than age, such as obsolescence, which decrease the usefulness of the property. Hence, if property is to be fully insured, the amount of insurance to be carried cannot be determined solely by reference to accounting data regarding cost and recorded depreciation, if any, for the property in question, although such data may be useful in providing a starting basis for estimating insurable value.

Additional perils coverage. The basic fire insurance policy relates to the perils of fire and, generally, lightning. In addition, coverage for a variety of other perils may be incorporated by endorsement to the basic policy. The premium is adjusted for the additional protection.

The perils most often included in such extended coverage are: windstorm, hail, explosion, riot, damage from automobiles and air-

craft, and smoke. In recent years fire insurance policies have become increasingly comprehensive. However, separate policies are also available for most of the perils that can be covered by endorsement to the basic fire policy.

The coinsurance clause. Because losses are usually only partial, there is a tendency to insure for only a portion of the value of the property. To combat this tendency, insurance companies have developed coinsurance clauses which provide that, if the insured does not carry an amount of insurance equal to a specified percentage (for instance, 80 per cent) of the insurable value of the property, the insurance company will be obligated to reimburse the insured for only a fraction of any loss suffered. In other words, if the insured does not carry insurance in an amount equal to the coinsurance requirement, he is regarded as being himself a coinsurer with the insurance company; that is, he carries a portion of the risk. For example, if, under an 80 per cent coinsurance policy, the insured carries insurance equal to only 70 per cent of the insurable value of the property at the date of the loss, he is a coinsurer. Any loss will be borne seven-eighths by the company and one-eighth by the insured; however, the company will not be liable for more than the face of the policy. If the amount of insurance carried is 80 per cent of the insurable value of the property, the company will be liable for all losses up to the face of the policy.

The operation of an 80 per cent coinsurance clause is illustrated below.

First illustration:

Insurable value of property at date of loss	$10,000
Policy	8,000

Since the amount of insurance carried satisfies the coinsurance clause, the insurance company is liable for all losses up to $8,000.

Second illustration:

Insurable value of property at date of loss	$10,000
Policy	8,500

In this illustration, the insurance carried exceeds the coinsurance clause requirement. Hence, the insurance company is liable for all losses up to $8,500.

Third illustration:

Insurable value of property at date of loss	$10,000
Policy	7,000
Loss	4,000

Here the insurance carried is less than the coinsurance clause percentage, being equal to only 70 per cent of the insurable value of the property. Therefore, the insured is a coinsurer for $\frac{1}{8}$ of any loss up to $8,000. Hence, the insurance company's liability is $\frac{7}{8}$ of $4,000, or $3,500.

Fourth illustration:

Insurable value of property at date of loss	$10,000
Policy	6,500
Loss	4,000

As in the preceding illustration, the insurance carried is less than the coinsurance clause percentage, in this case being equal to 65 per cent of the insurable value of the property. Accordingly, the insured is a coinsurer for $^{15}/_{80}$ of any loss up to $8,000. Hence, the insurance company's liability is $^{65}/_{80}$ of $4,000, or $3,250.

Fifth illustration:

Insurable value of property at date of loss	$10,000
Policy (same as above)	6,500
Loss	Total

$^{65}/_{80}$ of $10,000 is $8,125, but the policy is for only $6,500; hence, the insurance company's liability is $6,500.

From these illustrations the following general rule may be derived. The insurance company's liability under a policy with an 80 per cent coinsurance clause can be determined as follows: When the policy is less than 80 per cent of the insurable value of the property, multiply the loss by a fraction the numerator of which is the face of the policy and the denominator of which is 80 per cent of the insurable value of the property. The product is the liability of the company, except that the liability cannot be more than the face of the policy. If the insured amount is 80 per cent or more of the insurable value of the property, the coinsurance clause does not affect the settlement.

When the policy contains a coinsurance clause, it is important to watch changing values of the insured property, caused either by additional purchases or by increases in replacement costs. To illustrate, assume that property was purchased at a cost of $5,000 and insured for $4,000 under a policy containing an 80 per cent coinsurance clause. Later, when the property had an insurable value of $8,000, it was partially destroyed, with a loss of $4,000. Settlement would be made as follows:

Insurable value	$8,000
80% thereof	6,400

Company's liability: $^{40}/_{64}$ of $4,000, or $2,500.

Although of particular importance in fire insurance, coinsurance clauses may be included in policies for other types of insurance. An 80 per cent coinsurance rate was used in the preceding illustrations because it is the usual rate in fire insurance policies; other coinsurance rates are also used, for example, 70 per cent and 90 per cent.

Contribution clause. Since the same property may be insured with several insurance companies, policies generally

contain contribution clauses which specify how any loss will be shared by the several companies. Not all contribution clauses are designed to share losses on a pro rata basis. A few require one insurer, by reason of its having been on the risk first or because of the special nature of its policy, to bear the loss up to the limit of its policy before the insured can call upon another company to contribute. If a pro rata apportionment is specified by the contribution clause, one rule used for determining a company's portion of the loss is to multiply the loss by a fraction the numerator of which is the face amount of the policy and the denominator of which is either:

(1) The face amount of all policies.
The face amount of all policies is used as a denominator if the insurer's policy has no coinsurance clause (see Company *A* below) or if the insurance carried meets the coinsurance requirement of the policy (see Company *B* below).

or

(2) The insurance required under the coinsurance clause.
The coinsurance requirement is used as a denominator if the insurer's policy contains such a clause and its requirement has not been met (see Company *C* below).

To illustrate, assume that property having an insurable value of $100,000 is insured under the policies described below, and that a loss of $75,000 is incurred. The amount collectible from each company is computed as follows:

Company	Coinsurance Clause	Insurance: Required by Coins. Clause	Insurance: Carried	Fraction	Loss	Amount Collectible
A.....	None	—	$40,000.00	$\frac{40}{80}$	$75,000.00	$37,500.00
B.....	75%	$75,000.00	20,000.00	$\frac{20}{80}$	75,000.00	18,750.00
C.....	90%	90,000.00	20,000.00	$\frac{20}{90}$	75,000.00	16,666.67
Total..			$80,000.00			$72,916.67

Floater policies. Under a floater policy, the insured property may be moved from one place to another for processing, storing, or other purposes. The property is insured regardless of its location, within specified geographical limits and with limitations upon the amount payable on a loss at any one location. Under this type of policy, detailed inventory records showing the identity and cost of property at various locations are desirable for the purpose of proving losses.

Variable coverage policies. The inventories of some businesses fluctuate significantly in quantity and value during the year,

perhaps because of the seasonal character of the business. In order to enable a businessman to have continuous, complete coverage on such inventories, coverage limits are established and a provisional premium is charged in advance. In return for what in effect is a promise on the part of the insurance company of automatic full coverage, the insured agrees to make monthly reports to the company of the inventory on hand and subject to coverage. Such reports form the basis for variable amounts of insurance. At the end of the year, the actual premium is determined, on the basis of the average insurance protection given, and an additional premium is paid to the insurance company or a refund is granted to the insured.

Losses. Settlements for losses are usually based on the insurable value of the property at the date of the loss; that is, replacement cost new, as of that date, less depreciation. The words "actual cash value" are often used as an alternative description of the measure to be applied in computing losses. Incidentally, the insurer has the right to whatever salvage is obtainable from property on which a total loss has been paid. Or, if the insured wishes to keep the damaged property, the claim is reduced by the agreed-upon salvage value.

In this connection, mention should be made of the fact that a number of states permit a type of policy commonly identified as a "valued policy," under which the insurer may be liable for the amount of insurance carried in the event of total loss, which amount may be in excess of the actual cash value of the property at the time of the loss. There are also some policies that specifically cover the full cost of replacement.

In the event of a loss, the insured should notify the company at once, and should file a formal proof of loss, usually within 60 days and usually on a form provided by the company, showing, among other things, a description of the property destroyed or damaged, the estimated value of the property at the time of the loss, and the amount of the recovery claimed.

If the insured and the company cannot agree on the amount of the loss, the policy generally provides that the insurer may elect to repair or rebuild or replace the property destroyed or damaged instead of paying the insured directly for the loss. There is also a "last resort" provision which permits the insured and the insurer each to appoint a competent, disinterested appraiser; the two appaisers then appoint an umpire; if the appraisers fail to agree upon a settlement, the umpire's decision is final.

Fire loss account. When a fire occurs, a Fire Loss account should be set up.

It should be charged with:

The carrying value of the fixed assets destroyed or damaged.

The estimated cost, or, if perpetual inventory records are maintained, the carrying value of the inventories destroyed or damaged.

Any expense arising directly from the fire.

It should be credited with:

The value of the salvage, if retained by the insured.

The settlement received from the insurance company.

The final balance of the account should be closed to Retained Earnings or to a special gain or loss account. Such balance is a composite of several elements: adjustment of prior depreciation, change in price levels, and the difference between the value of the property lost and the insurance collected.

Formerly it was necessary to charge the Fire Loss account with all or a portion of the unexpired premium, since amounts paid by an insurance company in settlement of claims reduced the face amount of the policy for the unexpired term. Thus, if a loss were so great that the face amount of the policy was paid, the policy was exhausted and no further insurance protection existed under the policy irrespective of the stated expiration date. Similarly, a claim settlement equal to 60 per cent of the face left only 40 per cent of the original coverage in force. This situation no longer prevails; under the standard forms now in use, full coverage equal to the face amount of the policy extends for the term of the policy and is not affected by claim payments.

Carrying value of assets. If the fire occurs during an accounting period, there will be depreciation to record for a fractional period. This should be put on the books in the customary manner by debiting depreciation expense and crediting accumulated depreciation.

If a fixed asset is totally destroyed, its accumulated depreciation account should be closed against the related fixed asset account, and the resulting balance of the fixed asset account should be closed to the Fire Loss account. If only a partial loss is sustained, the fixed asset account should be relieved of the cost of the property destroyed, and the accumulated depreciation account should be relieved of the depreciation applicable to such property.

Under some partial-loss situations, it is difficult to isolate the amount of cost and accumulated depreciation affected by the fire. For example, suppose that a fire has been confined to a single office in a large office building, necessitating the rebuilding of one partition and the complete redecorating of the interior of that office and

an adjoining office. How much cost can be assigned to the partition destroyed by the fire? How much cost can be assigned to the destroyed interior decorations? In a case such as this, there is little purpose in attempting to answer the above questions, considering the fact that when the damage is repaired, the building as a whole is in essentially the same condition as it was before the fire. In other words, nothing has occurred that affects the depreciation rate, the use-life of the building, or its capacity to serve the business. Under these circumstances, and since the loss is covered by insurance, there is considerable practical justification for making no entries in the Building account and the related accumulated depreciation account, and for merely charging the Fire Loss account for the costs incurred in repairing the damaged property and crediting it for the amount which the insurance company pays or has agreed to pay the insured in settlement of the claim. But this procedure is not recommended unless the loss is relatively small and it is impracticable to determine the carrying value of the property destroyed or damaged.

It is not uncommon for an insurance company to undertake the necessary repairs in the event of a small loss. Under this arrangement, the insured need make no entries in the accounts.

If there is any salvage, and if the salvage is retained by the insured to be sold, no entries for salvage should be made until such sales are effected; the Fire Loss account should be held open until that time. If the salvage is to be put back into use, the fixed asset accounts should be debited and the Fire Loss account credited with the estimated value.

Estimated inventories. It should be remembered that the procedure used by the insured to account for inventories, whether *lifo*, average cost, or cost or market, whichever is lower, will not determine the insurance settlement. As noted earlier, settlements for losses are usually based on the insurable value of the property at the date of the loss, which is often described as the actual cash value of the property, which may or may not equal cost or some other basis of valuation used and acceptable for accounting purposes.

For settlement purposes, some evidence of quantities and kinds of goods on hand at the date of loss is desirable. In most cases, the method of estimating the inventories on hand will depend upon the accounting records kept. If perpetual inventories are maintained, they usually furnish the best possible evidence of quantities and kinds of goods on hand. If there are no perpetual inventories, the gross profit method may be used. To illustrate, assuming an inventory of $30,000 at the last closing, purchases of $60,000

between the date of closing and the date of the fire, sales of $75,000, and an estimated gross profit of 33⅓%, the inventory at the date of the fire might be estimated as follows:

Inventory, at date of last closing		$30,000
Add purchases		60,000
Total		$90,000
Less estimated cost of sales:		
Sales	$75,000	
Less gross profit—33⅓%	25,000	50,000
Estimated inventory at date of fire		$40,000

In this connection it may be noted that the gross profit method should not be used without a careful review of the accounting data to determine whether it is reasonable to expect that the method will result in reasonably reliable estimates of the inventories. A number of factors may make certain preliminary adjustments necessary if the gross profit method is to produce reasonably accurate estimates. For example, price movements occurring during the current period may have made former gross profit rates inappropriate for purposes of estimating inventories. Similarly, merchandise may have been received (and damaged or destroyed by the fire) but no entry for the purchase recorded in the accounts because the related invoice had not been received. Or, the opposite situation might prevail: purchases might be recorded before receipt of merchandise. A similar problem might arise in connection with sales and the delivery of the goods sold; the accounting entry for the sale may not have been recorded although the goods had been shipped, or vice versa. Any such conditions would make the gross profit method unreliable, unless the data were first adjusted to eliminate their effect.

Furthermore, inventory pricing methods may affect gross-profit-method estimates. If the last-in, first-out inventory method is in use, inventory valuations may reflect, to a considerable extent, "old" costs, which may differ materially from insurable values.

The dollar amount ascertained by the gross profit method or other means of estimate may be subject to scaling down by the adjuster for a reduction in the value of goods which were shopworn, damaged prior to the fire, obsolete, or out of style. It might be equally appropriate to adjust such dollar amounts upward in order to arrive at the insurable value of the inventory damaged or destroyed.

The question remains concerning the entries to be made as a result of the damage or destruction of the inventory. If desired, the books may be closed; after the inventories are set up in the usual manner, as an incident to such a closing, the dollar estimate

of the destroyed or damaged inventories may be transferred from inventory accounts to the Fire Loss account. In making the closing entries and the entries transferring the figure for the damaged or destroyed inventory to the Fire Loss account, the accountant should use estimated figures and not those allowed by the adjuster. If the adjuster's values were used, any extraneous loss resulting from his scaling down of values, or any extraneous gain resulting from an excess of replacement cost at the date of the fire over actual cost, would be improperly merged in the operating accounts instead of being clearly shown as an extraneous item in the Fire Loss account, where it belongs.

If it is not desired to close the books at the date of the fire, the debits to Fire Loss for inventories damaged or destroyed may be offset by credits to Raw Materials Burned, Goods in Process Burned, and Finished Goods Burned. These accounts will remain open until the next closing of the books.

Income tax considerations. Income tax regulations give relief to taxpayers who realize a nominal gain from such events as fires, other casualties, or condemnation proceedings. No taxable income is regarded as resulting from such "involuntary conversions" if the entire amount received as compensation for the converted property is expended in its replacement. To illustrate, assume that an insured building is carried on the books at $70,000, representing cost of $100,000 less depreciation of $30,000. Assume further that the building has an insurable value of $75,000 and that insurance of this amount is carried on the property. If the property is totally destroyed and $75,000 is received from the insurance company, a nominal gain of $5,000 will have occurred. However, if the insured uses the $75,000 of insurance proceeds to replace the building, no taxable gain has been realized.

If less than the total proceeds is expended in replacement, the nominal gain is taxable to the extent of the unexpended funds. Referring to the foregoing illustration, if $72,000 is expended to replace the destroyed property, $3,000 of the $5,000 nominal gain is taxable.

The cost basis of the new property for income tax purposes is actual cost reduced by the amount of the untaxed gain. Thus, in the case where $72,000 is expended to replace the property, its cost basis for tax purposes is $70,000, the outlay less the untaxed gain of $2,000.

Assuming that the property is replaced at a cost of $68,000, the entire $5,000 nominal gain is taxable. Since there is no untaxed gain, the cost basis of the new property for tax purposes is $68,000.

An involuntary conversion loss is deductible for tax purposes.

Mutual companies. If insurance is carried with a mutual company, the insured may receive a dividend at the expiration of the policy which in effect reduces the cost of the policy that has just expired. If the term of the policy was two or more years, then a portion of the dividend relates to prior periods and the insurance expense assigned to such prior periods was overstated. If dividends of this character are material in amount, the portion applicable to prior periods should be handled in the accounts in the same fashion as other similar corrections to prior years' earnings are handled, generally either by surplus adjustment or by the use of a separate account, which is properly segregated and described on the current income statement. (Correction of earnings of prior periods is discussed in Chapter 4 of the *Intermediate* volume.) In the typical case, however, the dividends are immaterial and are credited to Insurance Expense or Prepaid Insurance when received. It is not customary to make any entries for possible future dividends.

Policyholders in mutual insurance companies may be obligated to pay an assessment in addition to the regular premium if the insurance company encounters a period of excessive losses. As a general rule, this contingency is so remote, or the amount involved is so small, that the contingency need not be disclosed in the financial statements.

Mortgagee payment, or standard mortgage, clause. If the property covered by fire insurance has been mortgaged, as a general rule the mortgagee will have provided that the owner (mortgagor) must carry insurance at least equal to the indebtedness, and that the insurance policy must have an endorsement providing that losses under the policy will be payable to the mortgagee, to the extent of the indebtedness. Under such loss-payable clauses, it could develop that the destruction of the insured property would result in the complete or partial satisfaction of the mortgage.

The portion of an agreed claim which will be payable directly to the creditor under the terms of the policy may be shown in the balance sheet as a deduction from the indebtedness, thus:

Long-term liabilities:		
Mortgage payable	\$30,000	
Less insurance claim payable to mortgagee arising from damage to mortgaged property	25,000	\$5,000

Desirable records. To facilitate the preparation of a proof of loss, the following books and records are desirable:

(1) A plant ledger, with a separate account for each item of fixed property, revealing the model number and manu-

facturer, or otherwise identifying each item of property, and showing the cost and the depreciation taken for such item.

(2) Vouchers and supporting bills which may be submitted to the adjuster, if demanded, in proof of cost.

(3) A perpetual inventory, or inventory sheets showing both cost and marked-down values.

(4) A record showing exactly what property is insured under each policy.

An appraisal of fixed assets is extremely important from an insurance standpoint, even though it is not recorded on the books. It is of service in determining insurance requirements, under coinsurance clauses and otherwise, and in effecting settlements.

Workmen's Compensation and Employers' Liability Insurance

Nature of risk. Under the common law, employees had great difficulty in recovering from employers for accidents suffered in the course of their employment, but most of the states now have workmen's compensation laws which provide that, for various specific accidents sustained during employment, the employee or his family shall be entitled to receive from his employer a certain fixed sum and/or a percentage of the wages which he would have earned during the period of disability. There is also a tendency to include occupational diseases among the hazards for which the employee shall be compensated. A specific statement of risks and compensations cannot be made, because of the diversity of state laws.

Under workmen's compensation insurance, the insurance company assumes the employer's entire liability arising from the workmen's compensation law of the state. Employers' liability insurance gives the employer coverage against common-law suits brought by employees, who for one reason or another are not covered under the workmen's compensation law, to obtain damages for personal injuries. The two related risks are usually covered by the same policy.

Premiums. The premium is based upon the amount of the payroll during the policy period. The previous accident experience of the insured and the safety measures and devices used in his plant are factors affecting the rates to be charged. All of the classes of employees of the insured may be covered by one policy; the rate per $100 of payroll will be determined for each class separately on the basis of the hazard incident to the nature of the work.

At the beginning of the policy period, an advance premium is paid on the basis of the estimated payroll. Subsequently, the payroll records are audited by representatives of the insurance company, and the actual premium is thereby determined. If the policy provides for an annual payroll audit, the advance premium will cover the estimated payroll for the year; at the end of the year, the insured will pay an additional premium or receive a refund, depending upon whether the advance premium was less or more than the actual premium. If the policy is for a year, and the audit is made more frequently (say, quarterly), the advance premium will cover the estimated payroll for one quarter; at the end of the first, second, and third quarters, a payment will be made for the actual premium for the expired quarter; at the end of the fourth quarter, an additional premium payment or refund will be made, based on the difference between the original advance premium and the actual premium for the fourth quarter. The policy usually provides that a certain minimum portion of the advance premium shall not be refundable to the insured.

Since the rate applicable to each class of employees and the total estimated payroll therefor are stated in the policy, the payroll records must be kept separately for each class or in such a manner that a summary may be prepared by classifications. Computations of premiums are made separately for each class.

Accounting. Premiums on a policy for workmen's compensation and employers' liability insurance may be charged to Prepaid Workmen's Compensation Insurance, and this account should be written off to Workmen's Compensation Insurance Expense accounts by periodical entries based on the actual payrolls. To illustrate the procedure, assume that the nonrefundable advance premium is $175, and that the total advance premium is $206.80, computed thus:

Classification	Estimated Payroll for the Year	Rate per $100.00	Advance Premium
Factory	$20,000.00	$.80	$160.00
Shipping	4,000.00	.42	16.80
Office	10,000.00	.06	6.00
Salesmen	15,000.00	.16	24.00
Total			$206.80

The entry for the advance premium payment would be:

Prepaid workmen's compensation insurance	206.80	
Cash		206.80

A summary may be kept to show the premium based on the payroll for each payroll period, as shown on the following page.

Classification	Rate	July Payroll	July Premium	August Payroll	August Premium
Factory	.80	$2,000.00	$16.00	$1,960.00	$15.68
Shipping	.42	350.00	1.47	365.00	1.53
Office	.06	900.00	.54	1,015.00	.61
Salesmen	.16	1,000.00	1.60	1,100.00	1.76
Total		$4,250.00	$19.61	$4,440.00	$19.58

If financial statements are prepared monthly, the entry to record the premium expense for July might be:

Workmen's compensation insurance expense	19.61	
Prepaid workmen's compensation insurance		19.61

Or the charge might be classified, as follows:

Workmen's compensation insurance expense—Factory	16.00	
Workmen's compensation insurance expense—Shipping	1.47	
Workmen's compensation insurance expense—Office	.54	
Workmen's compensation insurance expense—Salesmen	1.60	
Prepaid workmen's compensation insurance		19.61

To illustrate the final premium settlement, let us assume that the total premiums payable, based on actual payrolls for the year, were $221.30. The Prepaid Workmen's Compensation Insurance account would have been charged with $206.80 (the prepaid premium) and credited with $221.30 (the premium based on actual payrolls) and would therefore have a credit balance of $14.50, representing the liability for additional premium. If the premiums based on actual payrolls were $195.00, the Prepaid Workmen's Compensation Insurance account would have a debit balance of $11.80, representing the refund receivable from the insurance company. If the actual premiums were only $160.00, the account would have a debit balance of $46.80, but the recoverable refund would be only $31.80, the $206.80 advance premium minus the $175.00 minimum premium. For balance sheet purposes, such refund claims are properly listed among the miscellaneous receivables; however, since these amounts usually are applied to reduce the next year's advance premium and are immaterial, it is customary to include them among the prepaid expenses.

Miscellaneous Types of Insurance

Explosion; riot and civil commotion. This type of insurance protects the insured against loss or damage due to riots or insurrection, and against losses from explosion resulting from the foregoing or other causes, whether originating on the insured's premises or elsewhere. It does not cover damages done at the direction of governmental or civil authorities, explosions coverable

by boiler explosion insurance, fires resulting from such explosions, or loss or damage caused by the military or naval forces of foreign enemies.

Sprinkler leakage. Such policies insure against loss or damage due to sprinkler leakage, but do not cover loss or damage to the sprinkler system itself. Losses of books of account, money, notes, evidences of indebtedness, and patterns are excluded or the underwriter's liability therefor is greatly limited.

Boiler explosion. The coverage under policies of this type includes destruction of, or damage to, property of the insured, or property of others for which the insured is liable, caused directly by the accident; personal injuries caused by the accident; and items of cost for temporary repairs. The coverage does not include explosions caused by fire, or fire resulting from any cause.

Endorsement or separate policy. As an alternative, insurance for the above perils may be covered by an endorsement to the basic fire policy. Or, such perils may be among those included in a broad extended-coverage form attached to the basic fire policy.

Use and occupancy. Fire insurance, and other property damage insurance such as tornado, boiler explosion, riot and civil commotion, sprinkler leakage, water damage, and earthquake, indemnify the insured only for the direct loss from the hazard covered by the insurance. The indirect or consequential loss that may result from the interruption of the business could easily exceed the direct loss to the physical property. For this reason, property damage policies may be supplemented by the addition of a form of coverage known as *use and occupancy* (or *business interruption*) *insurance*, the purpose of such insurance being to indemnify the insured for the "indirect" losses suffered as a consequence of the damage or destruction of business property. Thus, if use and occupancy coverage is combined with fire coverage (an additional premium being paid for the expanded coverage), the insured is protected against business-interruption losses resulting from fire. Use and occupancy coverage may be added to other forms of property-damage insurance as well.

The measure of recovery under use and occupancy insurance may be described by summarizing the provisions of a widely used standard policy form.

(1) Recovery in the event of loss shall be the *actual loss sustained* by the insured directly resulting from the necessary interruption of business, but not exceeding the *reduction* in gross earnings less charges and expenses which do not necessarily continue during the interruption.

In general, the test applied to determine whether an item of expense is necessarily continuing is based on the objective of enabling the business to resume operations with the same quality of service which existed immediately preceding the event which caused the interruption.

(2) Gross earnings are defined as:

Net sales and other earnings from operations, less:

(a) Cost of goods sold, including packaging,

(b) Cost of materials and supplies consumed directly in services performed for customers,

(c) Cost of services purchased from outsiders for resale which do not continue under the contract.

(3) The period of interruption covers only such length of time as would be required with the exercise of due diligence and dispatch to rebuild, repair, or replace the property causing the business interruption.

(4) If the insured could reduce the loss by partial operations, this factor would be taken into consideration by the insurance company in computing the allowable claim.

(5) Use and occupancy insurance also covers such expenses as are necessarily incurred for the purpose of reducing any loss under the policy, not exceeding, however, the amount by which the loss is thereby reduced.

In determining the amount of the claim for business-interruption losses, due consideration is given to the past experience of the business as evidenced by the insured's accounting records. Data relating to prior revenues and expenses are often collected by the insurance company with the application for use and occupancy coverage. But past experience is not as relevant as the pattern which presumably would have prevailed if the interruption had not occurred. The emphasis is upon the gross earnings that would have been earned had no interruption occurred.

Business-interruption insurance policies generally contain a coinsurance clause which states that, if the insured does not carry an amount of coverage at least equal to the coinsurance percentage of the gross earnings that would have been earned in the twelve-month period following the date of interruption, the insurance company shall be liable for only a fraction of the loss suffered. To illustrate, assume that the coinsurance percentage is 50%. If the gross earnings of the insured in the twelve months after an interruption would have been $100,000, insurance in the amount of $50,000 would satisfy the coinsurance provision. If less insurance is carried, the insured will be a coinsurer. Examples are on page 152.

Gross Earnings	Coinsurance Percentage	Amount of Insurance	Amount of Loss	Liability of Insurance Co.
$100,000	50%	$50,000*	$60,000	$50,000
100,000	50	50,000*	40,000	40,000
100,000	50	30,000	20,000	12,000 (3/5)
100,000	70	80,000*	75,000	75,000
100,000	70	50,000	42,000	30,000 (5/7)

* Coinsurance requirement satisfied.

If one manufacturer is dependent upon another for a continuous and uninterrupted supply of materials or parts, he can obtain contingent use and occupancy insurance against the loss which would be caused by the supplier's inability to furnish goods. Similarly, contingent use and occupancy coverage may be obtained by a producer reliant on one or two large outlets for the marketing of most of its product.

Fidelity bonds. Fidelity bonds, under which a surety company obligates itself to reimburse the insured for losses resulting from the dishonesty of employees, are issued in the following forms:

Individual bonds, covering one employee.
Position-schedule bonds, covering anyone holding any of the positions scheduled.
Name-schedule bonds, covering named employees occupying named positions.
Blanket bonds, covering all employees.

The insured must notify the company promptly upon the discovery of a loss, and time limits are placed upon the filing of claims and the filing of suits against the insurer for losses suffered during the policy period.

Plate glass. This insurance covers loss due to breakage of glass and, usually, the cost of lettering and ornamentation on the glass. It does not cover damage caused by fire, by earthquake, or by workmen engaged in construction or repairs.

Marine insurance. This type of protection is indispensable for all shippers engaged in foreign commerce. Protection may be obtained under the following types of policies:

A special policy, covering one shipment only.
An open policy, covering all shipments made during a specified period, a premium being charged for each shipment.
A blanket policy, which is similar to an open policy, except that an estimated annual premium is payable in advance.

Public liability and property damage. Such policies protect the insured against losses resulting from liability for injury to another, or against damage to the property of another, due to negligence of the insured or of his employees or agents. Public

liability insurance may be written to cover various types of hazard, such as a contractor's liability for injuries to persons passing a building under construction; a building owner's liability for injury to persons riding in an elevator; an automobile owner's liability for injury to others; physicians' and dentists' liability for malpractice; and so forth.

Public liability policies usually provide that the insurance company shall reimburse the insured for the cost of first aid, defend the insured against damage suits, pay all expenses incurred in connection therewith, and satisfy judgments rendered against the insured, subject to the limits of the policy. A limit is placed upon the amount to be paid to any one person or to two or more persons as the result of one accident. For instance, the coverage limits expressed as $5,000-$25,000 mean that payments of claims arising from any accident would not exceed $5,000 to any one claimant nor $25,000 to all claimants. Damages resulting from liabilities imposed by workmen's compensation laws are excluded.

Profit insurance. This type of insurance indemnifies for the profit which would have been made from the sale of finished goods destroyed. For instance, ordinary fire insurance will protect the insured to the extent of the actual cash value of the goods destroyed; profit insurance will further protect him to the extent of the profit which could have been made by the sale of the goods destroyed.

Under certain circumstances and on payment of an additional premium, a profit insurance clause may be included in other insurance policies, such as fire, riot and civil commotion, sprinkler leakage, and water damage. The reputation of the applicant may be fully investigated before such insurance is written.

Extra-expense insurance. Some businesses stand in a special position with regard to the public which makes it particularly important that they continue to supply their products or services without interruption. Public utilities, hospitals, dairies, and banks may be cited as examples. If their facilities are damaged or destroyed, the management will make a great effort to continue to satisfy their customers by the use of substitute arrangements, in some instances to minimize the chance of losing their regular customers to other businesses. Such extra effort means extra expense, which often will greatly exceed the amount that could be recovered through business-interruption insurance. Extra-expense insurance is used to cover this type of situation and to reimburse the insured for the added expense incurred in order to continue doing business in some makeshift way during the time required to rebuild, replace, or repair facilities.

Insurance register. A register of insurance policies is desirable for two purposes: first, to show the policies in force and the amount of each class of coverage; and second, to show the distribution of the insurance premium expense by months or years. Insurance registers are obtainable with various rulings. The following information should be shown: Policy number, date of policy, date of expiration, name of insurance company, nature of coverage, amount of insurance, total premium, and distribution of premium expense by periods.

The nature of the coverage and the amounts of the insurance of each class carried might, for instance, be as follows:

Coverage	Insured Amount
Fire—building	$150,000
Fire—contents	60,000
Public liability	50,000
Steam boiler	50,000

If coverage for one risk is carried in several policies, it may be desirable to provide columns in the register so that the coverages may be shown as follows:

Coverage					
Fire—Building	Fire—Contents	Public Liability	Steam Boiler	Etc.	Etc.
$150,000					
	$60,000				
		$50,000			
			$50,000		
90,000					
	35,000				

The columns to be provided for distribution of premium expense by periods will depend upon whether it is desired to show distributions by years or by months. If distribution by years is sufficient, four or five year-columns will suffice. If distribution is desired by months, a column must be provided for each month of the year, for the unexpired premiums at the beginning of the year, and for the unexpired premiums at the end of the year, thus:

Unexpired Jan. 1	Premiums Paid During Year	Monthly Expiration					Unexpired Dec. 31
		Jan.	Feb.	Mar.	Apr.	Dec.	

The totals of the monthly expiration columns will show the amounts to be charged monthly to insurance expense and credited to unexpired insurance. At the end of each year, a new page must be opened and all policies in force forwarded to it.

CHAPTER NINE

The Statement of Affairs*

Insolvency. The word *insolvent* has two meanings. First, the popular meaning: A person who is not able to pay his debts as they mature in the regular order of business is said to be insolvent. He may have assets greatly in excess of his liabilities, but these assets may be tied up in such a manner that they cannot be realized promptly enough to meet current liabilities. Second, the definition in the Bankruptcy Act: "A person is 'insolvent' when the present fair salable value of his property is less than the amount required to pay his debts."

Procedures available for businesses in financial difficulty. A business which cannot pay its debts as they mature may have recourse to the following procedures:

(A) Nonjudicial procedures (without court action):
- (1) Extension of time of payment.
- (2) Composition settlement.
- (3) Creditor committee management.
- (4) Voluntary assignment.

(B) Judicial procedures (with court action):
- (1) Equity receivership.

* The authors are indebted to Professor John C. Teevan, late of Northwestern University, and Professor L. Hart Wright, of the University of Michigan, for assistance with respect to matters of law discussed in this chapter.

(2) Procedures under the Bankruptcy (Chandler) Act:
  (*a*) Liquidation.
  (*b*) Corporate reorganization.
  (*c*) Arrangement.

Extension of time of payment. In a case where a debtor is temporarily embarrassed but has assets sufficient to pay his debts over an extended period, his creditors or a sufficient majority of them may grant him additional time. This arrangement obviously frees the debtor from financial pressure for the time being and is designed to allow him time for an orderly realization of sufficient of his assets, without undue losses incident to forced sales, to meet his obligations at the extended maturity dates. The debtor is also enabled to carry on and maintain his business more efficiently than he could under the threat of more drastic action on the part of his creditors. Extensions usually are practical only in the case of relatively small businesses or where the creditors are comparatively few in number. From the standpoint of the debtor, the purpose of extensions is the preservation rather than the liquidation of the business.

Composition settlements. A *composition agreement* is one in which all or a sufficient number of the creditors of an insolvent debtor agree to accept from him a stated percentage of their respective claims in full settlement and satisfaction of such claims. Usually, in such cases, the debtor is insolvent in the bankruptcy meaning of the term; that is, his liabilities are in excess of his assets. As in the case of extensions, this procedure is practicable only in the case of small businesses or where the number of creditors is not large. If there are nonassenting creditors, but their number is not too large or the amount of their claims is not too large, the assenting creditors may allow the debtor to pay the nonassenting creditors either in full or in a greater amount than they would receive if they were parties to the composition. In order for the agreement to be binding on the creditors, the debtor must have made full disclosure of all of his assets, and he must not have made any secret preferential arrangement with any creditor. If the debtor fails to disclose all of his assets or if he secretly prefers any creditor, the other creditors may repudiate the agreement, retain such payments on account as they may have received, and take appropriate legal action against the debtor for the recovery of their claims to the fullest possible extent. In composition agreements, the debtor usually makes a part payment in cash and gives notes or other instruments for the balance payable in the future. If they choose, the creditors may allow the debtor to retain some of his assets, in

which case he may continue the operation of his business. If the composition agreement is faithfully carried out by the debtor, he is discharged by the contractual agreement from all debts covered by it.

Creditor committee management. This form of cooperation between creditors and a distressed debtor originates in an agreement whereby control of the debtor's business is turned over to a committee chosen by the creditors. The agreement usually provides for an extension of payment of existing debts. Sometimes, if the committee deems it advisable, the creditors will put fresh capital into the business. The personnel of the debtor's organization is usually left intact, except insofar as the committee may decide that changes are necessary. In any case, the control and management of the business rests with the committee. The agreement usually provides for the return of the business to the debtor when payment of the creditors' claims has been made or satisfactorily provided for. Sometimes, in the case of a corporate debtor, the committee will effect or supervise a reorganization. If, in the course of time, it appears that rehabilitation or reorganization is impracticable, the committee may liquidate the business.

Voluntary assignment. Under common law (that is, in the absence of a statute), an insolvent debtor may make a general assignment of all his assets to a designated trustee or assignee for the benefit of his creditors. Upon the execution of such an assignment, it becomes the duty of the assignee to realize on the assets and distribute the proceeds pro rata among the creditors. Ordinarily, an assignment is made with the understanding that the debtor is thereby discharged of all his debts. This result is effected by combining the common-law general assignment (which, standing alone, did not call for a discharge) and the contractual composition. It should be noted that a general assignment by a debtor for the benefit of his creditors constitutes an act of bankruptcy; consequently, creditors who refuse to participate in the assignment may file a petition in bankruptcy against the debtor. The matter of voluntary assignments is now regulated by statutes in most states. These statutes vary, but, in general, they provide for the supervision of assignments by some designated court and require the assignee to file an inventory, furnish a bond, publish notice of the assignment, and so forth. In general, the voluntary assignment is falling into disuse.

Equity receiverships. A receivership of an insolvent business comes within the general jurisdiction of a court of equity, whether federal or state. However, in most, if not all, states statutes now provide for a variety of receiverships, mostly in connection with

insolvent corporations. Such receiverships may be had for various reasons and by various parties, as by stockholders, the corporation itself, or groups of stockholders. Receiverships are usually involuntary, but they may be procured voluntarily at the instance of the debtor. Procuring, permitting, or suffering a receivership, either voluntary or involuntary, when a debtor is insolvent in either meaning of the term, is an act of bankruptcy and may be availed of as such by any creditors who so desire. If they do, and the debtor is adjudged a bankrupt, the effect is to terminate the receivership.

Briefly, in receivership proceedings, the property, business, and affairs of the debtor are brought before the court, which in its discretion may appoint a receiver. The receiver may be a natural person or a corporation. A receiver is an officer of the court and enjoys the protection, and is subject to the orders, of the court. The immediate effect of the appointment of a receiver is to place the assets of the debtor under the control of the court. This action prevents a race on the part of the creditors against the assets by levy, attachment, forced sales, and other normal legal procedures, which might be disastrous to many of the creditors as well as to the business itself. The receiver is thus given time to proceed to rehabilitate the business if possible or, if not, to proceed with an orderly liquidation. The creditors' rights and claims remain intact, but their satisfaction is postponed until rehabilitation, reorganization, or liquidation is effected.

Equity receiverships involving large corporations, including railroads and other public utilities, generally are instituted in the federal courts. The proceedings are usually begun by a friendly creditor in another state, diversity of citizenship being necessary in order to bring the proceedings under the jurisdiction of a federal court. The debtor will then admit insolvency and a willingness to have a receiver appointed. Such receiverships, though technically involuntary, are known as *friendly* or *consent receiverships*. Upon the appointment of the receiver, the various groups of creditors (bondholders and other secured and unsecured creditors), as well as the stockholders, proceed to form their respective protective committees. Conflict of interest may arise among the various groups and unduly delay the proceedings. Sometimes minorities have to be bought off, and sometimes they are frozen out. Usually, complete reorganization is necessary and a new corporation is formed for this purpose. The various groups will then receive the securities of the new corporation, with or without part payment in cash, as the case may be. The expenses of a receivership are usually excessive and the procedure dilatory, extending sometimes as long as twenty or thirty years. Since the amendment

of the Bankruptcy Act in 1933 by the debtor relief provisions, which furnish more efficient, less expensive, and more speedy relief, federal equity receiverships are largely falling into disuse.

The Chandler Act. The Bankruptcy Act was amended in 1933 and 1934 by provisions known as *debtor relief legislation.* This was done to meet grave financial problems in the business world caused by the then-existing depression. The best-known of these provisions was Section 77B. In 1938, the Act, including both bankruptcy and debtor relief provisions, was considerably revised and amended by the Chandler Act. The Bankruptcy Act, as so revised and amended, contains thirteen chapters. The first seven chapters cover bankruptcy proper, the object being liquidation. The remaining six chapters pertain, not to bankruptcy, but to the relief of debtors, and the object here is the preservation or rehabilitation of the embarrassed business.

Liquidation under Bankruptcy Act. *Bankruptcy* is the legal status of a debtor who, pursuant to his voluntary petition or an involuntary petition filed by creditors, has been adjudicated a bankrupt by a federal district court, known for this purpose as a *court of bankruptcy.* Municipal, railroad, insurance, and banking corporations and building and loan associations cannot be adjudged bankrupt. A farmer or wage earner cannot be adjudged an involuntary bankrupt but may become a voluntary bankrupt. A wage earner is one employed by another person and whose compensation does not exceed $1,500 per year.

The purpose of bankruptcy is to effect a speedy and fair distribution of the bankrupt's assets among his creditors and to discharge the bankrupt from his debts. The Act provides that certain debts are not dischargeable.

Shortly after the adjudication, the creditors elect a trustee, or they may elect three. The trustee takes title to, and control of, the bankrupt's estate. The assets are realized by him, and the proceeds are distributed among the creditors. Under Section 64 of the Act, quoted on page 165, certain debts have priority. The general control of the bankruptcy proceedings is in the hands of the referee, an officer appointed by the court for a period of six years, who functions as an arm of the court. In summary, bankruptcy proceedings imply complete and final liquidation of the bankrupt's entire estate, the distribution of the proceeds among the creditors as provided by the Act, and the discharge of the bankrupt from all his general business debts.

Debtor relief under Bankruptcy Act. The titles of the chapters of the Bankruptcy Act providing for the relief of debtors are on the following page.

Chapter VIII:	
Section 75	Agricultural Compositions and Extensions. (As last amended, petitions must have been filed by March 1, 1949, to obtain the benefits of this section.)
Section 77	Reorganization of Railroads Engaged in Interstate Commerce.
Chapter IX	Readjustment of Debts of Taxing Districts.
Chapter X	Corporate Reorganization.
Chapter XI	Arrangements.
Chapter XII	Real Property Arrangements by Persons Other Than Corporations.
Chapter XIII	Wage Earners' Plans.

Of these chapters, only Chapters X and XI will be considered.

To obtain relief by a corporate reorganization or an arrangement, the debtor must be insolvent, either in the sense that his liabilities exceed his assets or that he is unable to pay debts as they mature. The debtor is not adjudged a bankrupt, and is known, not as a *bankrupt*, but simply as the *debtor*.

Corporate reorganization. Chapter X, covering corporate reorganizations, replaces Section 77B enacted in 1934. This chapter applies only to corporations seeking reorganization by means of a revision of capital structure, with or without an adjustment of their unsecured debts. Except for large corporations with publicly held securities, where a corporation seeks adjustment of its unsecured debts only, it comes within the provisions of Chapter XI on arrangements.

The petition to effect a reorganization may be filed by the corporation itself or by creditors or an indenture trustee. A petition may be filed even though bankruptcy proceedings are pending against the corporation. If the judge finds that the petition was filed in good faith and in accordance with the Act, he enters an order approving it. If the indebtedness, certain with regard to amount and not contingent with regard to liability, exceeds \$250,000, the judge must appoint one or more trustees. If such indebtedness is less than \$250,000, the judge may appoint one or more trustees or may continue the debtor in possession.

Until changed by the judge, the order approving the petition operates as a stay of any prior pending bankruptcy, mortgage foreclosure, or equity receivership proceeding, or any other act or proceeding to enforce a lien against the debtor's property. Certain schedules and lists must then be filed by the debtor in possession or by the trustee. In due time, a plan of reorganization is filed by

the trustee, debtor in possession, stockholders, or an examiner appointed by the court, according to various circumstances.

A hearing on the plan then takes place. If the judge finds the plan fair, equitable, and feasible, he enters an order approving it. It is then submitted for acceptance to all creditors and stockholders affected by it. It must be accepted by creditors holding two-thirds in amount of claims filed and allowed in each class. If the corporation is solvent, the plan must also be accepted by a majority of stockholders in each class. If the plan is accepted by the necessary majorities, a further hearing on the plan takes place, at which all interested parties may be present. If the judge finds the plan fair, equitable, and feasible and in compliance with the Act, he enters an order confirming it. The plan then becomes binding upon the corporation and all creditors and stockholders, and on any other corporation formed or to be formed for the purpose of carrying out the plan. Distribution of cash, other assets, or stocks and bonds, as the case may be, is then made to creditors and stockholders. Upon the consummation of the plan, the judge enters an order discharging the debtor corporation from its liabilities, discharging the trustee, and closing the estate.

In the event no plan is proposed, or if no plan is approved by the judge, or if an approved plan is not accepted, or if a confirmed plan is not consummated, the judge may dismiss the reorganization proceeding and direct that bankruptcy be proceeded with against the debtor corporation. Chapter X has done away with federal equity receiverships to a very considerable extent.

Arrangements. An *arrangement* means any plan of a debtor for the settlement, satisfaction, or extension of the time of payment of his unsecured debts. *Debtor* includes an individual, partnership, or corporation. A petition for an arrangement can be filed only by the debtor and must set forth the provisions of the arrangement proposed by him. A petition may be filed by a debtor against whom bankruptcy proceedings are already pending. The court may then appoint a receiver, unless a trustee in bankruptcy has already been appointed. If no receiver or trustee is appointed, the debtor remains in possession of his property and business.

The court then calls a meeting of creditors, to whom a copy of the proposed arrangement and a summary of the debtor's assets and liabilities have been furnished. To be effective, the plan of arrangement must be accepted by a majority in number of all creditors, which number must also represent a majority in amount of claims. After acceptance, the court appoints a receiver, trustee, or other person to receive the money and other consideration to be deposited by the debtor for distribution to creditors, fixes the time

for such deposit, and also fixes the time for the hearing on the confirmation of the arrangement. After the hearing for confirmation, the court, if it finds that the plan of arrangement is fair, equitable, and feasible and that the debtor has deposited the money and other consideration as agreed, confirms the arrangement. The arrangement then becomes binding on the debtor and all the creditors. The money and other consideration are then distributed to the creditors as provided by the arrangement. The confirmation of the arrangement operates to discharge the debtor of all his unsecured debts, except as provided by the arrangement. If the plan of arrangement fails because of nonacceptance, nonperformance by the debtor, or otherwise, bankruptcy proceedings may be reinstated or begun against the debtor.

Statement of affairs. The statement of affairs is sometimes used to show the financial condition of an insolvent business. In England the bankruptcy laws require that a statement of affairs be furnished to the creditors of an insolvent debtor. Because of the influence of British accountants practicing in this country, problems requiring the preparation of such statements were frequently included in examinations, and the subject has therefore necessarily been covered in textbooks.

The statement is of little, if any, importance in American practice, and problems dealing with it are now given infrequently in examinations.

Both the balance sheet and the statement of affairs are statements of financial condition. The differences between the two statements are indicated below:

(1) The balance sheet is prepared from the viewpoint of a going concern; the statement of affairs is prepared from the viewpoint of liquidation.

(2) In the balance sheet, the assets and liabilities are classified on a going-concern basis, as *fixed*, *current*, and so forth; in the statement of affairs, the liabilities are classified as *prior*, *fully secured*, *partially secured*, and *unsecured*, and the assets are classified to indicate those which have been pledged with fully or partially secured creditors and those which are free.

(3) In the balance sheet, the assets are stated at going-concern values; in the statement of affairs, they are stated both at going-concern values and at their estimated realizable values.

Illustration. The statement of affairs on page 163 is based on the balance sheet and supplementary information on page 164.

THE SMITH COMPANY
Statement of Affairs—June 30, 1960

Book Value			Expected to Realize
	Assets pledged with fully secured creditors:		
$25,000	Land and buildings:		
	Estimated value	$18,000	
	Less mortgage payable—contra	15,000	$ 3,000
	Assets pledged with partially secured creditors:		
3,000	Bonds of *X* Company—deducted contra		
	Estimated value	$ 3,200	
	Free assets:		
300	Cash		300
9,000	Accounts receivable:		
	$4,000 Good		4,000
	3,000 Doubtful		1,500
	2,000 Bad		
	$9,000		
18,000	Merchandise		13,500
	Total free assets		$22,300
	Deduct liabilities having priority, per contra:		
	Accrued wages		250
	Net free assets		$22,050
	Estimated deficiency to unsecured creditors		3,750
$55,300			$25,800

Book Value			Expected to Rank
	Liabilities having priority:		
$ 250	Accrued wages—deducted contra		
	Fully secured liabilities:		
15,000	Mortgage payable—deducted contra		
	Partially secured liabilities:		
4,000	Notes payable	$4,000	
	Deduct bonds of *X* Co	3,200	$ 800
	Unsecured liabilities:		
25,000	Accounts payable		25,000
	Stockholders' equity per books:		
10,000	Capital stock		
1,050	Retained earnings		
$55,300			$25,800

THE SMITH COMPANY
Balance Sheet—June 30, 1960

Assets		Liabilities and Stockholders' Equity	
Cash	$ 300	Accrued wages	$ 250
Accounts receivable	9,000	Accounts payable	25,000
Merchandise	18,000	Notes payable	4,000
Bonds of *X* Company	3,000	Mortgage payable	15,000
Land and buildings	25,000	Capital stock	10,000
		Retained earnings	1,050
	$55,300		$55,300

The accounts receivable have not been pledged with any of the creditors; their value is estimated as follows:

	Gross Value	Estimated Realizable Value
Good	$4,000	$4,000
Doubtful	3,000	1,500
Bad	2,000	—

The merchandise is not pledged; its estimated value is $13,500.

The bonds of *X* Company, carried at $3,000, are worth $3,200; they have been pledged as security to the notes payable of $4,000, which are therefore only partially secured.

The land and buildings, which are thought to be worth $18,000, serve as security to the $15,000 mortgage, which is therefore fully secured.

In the statement of affairs, the balance sheet values are shown in the Book Value columns. The Expected to Realize column shows the amounts which the receiver expects to obtain from these assets; this column is sometimes headed Free Assets at Realizable Values. The Expected to Rank column shows the amounts of unsecured liabilities; this column is sometimes headed Unsecured Claims. The treatment of the various assets and liabilities is discussed in the following sections.

Liabilities having priority. In a bankruptcy situation, certain liabilities have priority. Although a statement of affairs may be prepared in cases short of bankruptcy, here also it is customary to adopt the same priority listing for liabilities as would prevail in a bankruptcy. The basic priority order is as follows:

(1) Liabilities incurred in preserving and administering the assets of the business.

(2) Claims of wage earners, not exceeding $600 per employee and provided that the wages have accrued within the last three months.

(3) Claims by creditors for reimbursement for money expended in defeating alternative, and presumably less reasonable, settlement plans.

(4) Taxes.

(5) Debts owing to any person or governmental unit granted priority by state or federal statute.

Section 64 of the Bankruptcy Act covers this matter in more detail. It provides:

"a. The debts to have priority, in advance of the payment of dividends to creditors, and to be paid in full out of bankrupt estates, and the order of payment, shall be (1) the actual and necessary costs and expenses of preserving the estate subsequent to filing the petition; the fees for the referees' salary fund and for the referees' expense fund; the filing fees paid by creditors in involuntary cases or by persons other than the bankrupts in voluntary cases; where property of the bankrupt, transferred or concealed by him either before or after the filing of the petition, shall have been recovered for the benefit of the estate of the bankrupt by the efforts and at the cost and expense of one or more creditors, the reasonable costs and expenses of such recovery; the costs and expenses of administration, including the trustee's expenses in opposing the bankrupt's discharge or in connection with the criminal prosecution of an offense punishable under chapter 9 of Title 18, or an offense concerning the business or property of the bankrupt punishable under other laws, Federal or State; the fees and mileage payable to witnesses as now or hereafter provided by the laws of the United States, and one reasonable attorney's fee, for the professional services actually rendered, irrespective of the number of attorneys employed, to the petitioning creditors in involuntary cases and to the bankrupt in voluntary and involuntary cases, as the court may allow: *Provided, however*, That where an order is entered in a proceeding under any chapter of this title directing that bankruptcy be proceeded with, the costs and expenses of administration incurred in the ensuing bankruptcy proceeding shall have priority in advance of payment of the unpaid costs and expenses of administration, including the allowances provided for in such chapter, incurred in the superseded proceeding and in the suspended bankruptcy proceeding, if any; (2) wages and commissions, not to exceed $600 to each claimant, which have been earned within three months before the date of the commencement of the proceeding, due to workmen, servants, clerks, or traveling or city salesmen on salary or commission basis, whole or part time, whether or not selling exclusively for the bankrupt; and for the purposes of this clause, the term 'traveling or city salesman' shall include all such salesmen, whether or not they are independent contractors selling the products or services of the bankrupt on a commission basis, with or without a drawing account or formal contract; (3) where the confirmation of an arrangement or wage-earner plan or the bankrupt's discharge has been refused, revoked, or set aside upon the objection and through the efforts and at the cost and expense of one or more creditors, or, where through the efforts and at the cost and expense

of one or more creditors, evidence shall have been adduced resulting in the conviction of any person of an offense under chapter 9 of Title 18, the reasonable costs and expenses of such creditors in obtaining such refusal, revocation, or setting aside, or in adducing such evidence; (4) taxes legally due and owing by the bankrupt to the United States or any State or any subdivision thereof: *Provided*, That no order shall be made for the payment of a tax assessed against any property of the bankrupt in excess of the value of the interest of the bankrupt estate therein as determined by the court: *And provided further*, That, in case any question arises as to the amount or legality of any taxes, such question shall be heard and determined by the court; and (5) debts owing to any person, including the United States, who by the laws of the United States in [sic] entitled to priority, and rent owing to a landlord who is entitled to priority by applicable State law: *Provided, however*, That such priority for rent to a landlord shall be restricted to the rent which is legally due and owing for the actual use and occupancy of the premises affected, and which accrued within three months before the date of bankruptcy."

It will be noted that, in the statement of affairs, liabilities having priority are not extended to the Expected to Rank column, but are deducted from the total free assets in the Expected to Realize column, to indicate that they are a first claim against the free assets and that they must be settled in full before any assets are available for the payment of unsecured liabilities.

Fully secured liabilities and pledged assets. A fully secured liability is a debt secured by pledged assets having a realizable value equal to or greater than the amount of the debt. A fully secured creditor realizes on the pledged assets, deducts the amount of his claim, and pays any excess to the receiver or trustee; in the statement of affairs on page 163, the $15,000 fully secured mortgage and the $18,000 of pledged assets are shown as follows:

On the asset side:

The estimated value of the mortgaged land and buildings, $18,000, is entered at the left of the Expected to Realize column, the amount of the mortgage is deducted, and the $3,000 excess of the security over the liability is entered in the Expected to Realize column, to show the net amount which the trustee expects to obtain.

On the liability side:

The notation "deducted contra" and the omission of the amount from the Expected to Rank column indicate that the mortgage will be paid from the proceeds of the pledged assets and not from the proceeds of free assets.

Partially secured liabilities and pledged assets. A partially secured liability is a debt secured by assets having a realizable value less than the amount of the debt. Partially secured creditors realize on the pledged assets, apply the proceeds in reduction of their claims, and look to the free assets for payment of the unsecured balance. Thus, in the illustrative statement of affairs on page 163,

On the liability side:

The estimated value of the pledged bonds ($3,200) is deducted from the amount of the liability ($4,000), and the $800 excess, or unsecured portion of the liability, is extended to the Expected to Rank column, as a general claim against the free assets.

On the asset side:

The notation "deducted contra" and the omission of the estimated value from the Expected to Realize column indicate that the trustee will obtain no funds from the disposal of the bonds.

Unsecured liabilities and free assets. All unsecured liabilities are entered in the Expected to Rank column, and the realizable values of all free assets are entered in the Expected to Realize column.

Stockholders' equity per books. The amounts of the capital stock and retained earnings are entered in the Book Value column on the liability side of the statement of affairs, to bring the two book value columns into balance and thus to indicate that no balance sheet elements have been omitted from the statement.

Net free assets and deficiency to unsecured creditors. The $22,300 total of the Expected to Realize column is the amount of funds which the trustee expects will come into his possession. The liabilities having priority are deducted from this total to indicate that they are a first claim against the free assets, and to determine the $22,050 remainder, or net free assets, which it is estimated will be available for the payment of unsecured liabilities. The difference between the net free assets and the total of the Expected to Rank column is the deficiency to unsecured creditors.

The deficiency account. The statement of affairs may be accompanied by a statement called a *deficiency account,* showing the estimated loss or gain on the realization of the assets. This account, or statement, shows why it will be impossible to pay the unsecured creditors in full. The estimated losses and gains appear in the deficiency account, as shown in the illustration on the following page.

THE SMITH COMPANY
Deficiency Account—June 30, 1960

Estimated loss on:		Estimated gain on:	
Accounts receivable.......	$3,500	Bonds of X Company.......	$200
Merchandise.............	4,500		
Land and buildings.......	7,000		

The balance of this account now shows a loss of $14,800. The account is closed by entering on the credit side:

(1) The capital stock and retained earnings of the corporation, thus indicating the loss to be borne by the stockholders; and
(2) The deficieny to unsecured creditors, per the statement of affairs, thus indicating the probable loss to be borne by the creditors.

THE SMITH COMPANY
Deficiency Account—June 30, 1960

Estimated loss on:		Estimated gain on:	
Accounts receivable.......	$ 3,500	Bonds of X Company...	$ 200
Merchandise.............	4,500	Capital stock.............	10,000
Land and buildings.......	7,000	Retained earnings.........	1,050
		Estimated deficiency to unsecured creditors.......	3,750
	$15,000		$15,000

The use of a report form for the deficiency account, and a more informative statement heading, would probably be an improvement. For example, consider the following:

THE SMITH COMPANY
Statement of Estimated Deficiency to Unsecured Creditors
June 30, 1960

Estimated losses and gains:		
Losses on:		
Accounts receivable..........................	$ 3,500	
Merchandise..................................	4,500	
Land and buildings............................	7,000	$15,000
Gains on:		
Bonds of X Company................................		200
Estimated net loss......................................		$14,800
Deduct stockholders' equity:		
Capital stock................................	$10,000	
Retained earnings.............................	1,050	11,050
Estimated deficiency to unsecured creditors..................		$ 3,750

Such a statement arrangement apparently violates no legal rules and, if the form is more easily understood, an accountant would be justified in considering its use.

Illustration of special points. The statement of affairs and the deficiency account on pages 170 to 172 illustrate the treatment

of a number of special points discussed in the following sections of this chapter.

Reserves. The treatment of reserves depends upon their nature. Although the Committee on Terminology of the American Institute of Certified Public Accountants has recommended discontinuance of the use of the word *reserve* except to indicate surplus restrictions or appropriations, and the American Accounting Association's Committee on Concepts and Standards Underlying Corporate Financial Statements has concluded that the term *reserve* should not be employed in published financial statements of business corporations, until such time as the profession adopts substitute terminology, a student may expect to find the word *reserve* used in the following ways:

(1) Valuation reserves, such as reserves for depreciation and for bad debts.

Such reserves are usually deducted from the gross book values of the assets, and the net book values are entered in the Book Value column on the asset side of the statement of affairs. This treatment is illustrated by the deduction of the reserves for depreciation of buildings and machinery. The deficiency account shows, as a loss, the difference between the net book value and the estimated realizable value.

In some cases one reserve may be set up against two or more assets. For instance, in the illustrative statement, there is one reserve for losses on both accounts and notes receivable. Since this reserve cannot be apportioned between the two assets, it cannot be deducted on the asset side of the statement, and is therefore shown under a Reserves caption on the liability side of the statement. In the deficiency account, the reserve is deducted from the gross amount of the loss on the accounts and notes.

(2) Liability reserves, such as Reserve for Federal Income Tax.

Such reserves should be classified under the Prior, Fully Secured, Partially Secured, or Unsecured captions. In the illustration, a reserve was provided for possible additional federal income taxes of prior years; as it is expected that the tax will have to be paid, the item is classified as "a liability having priority." It may be that some of the reserves listed among the liabilities on a company's regular balance sheet represent provisions for anticipated liabilities. (*Continued on page 173.*)

THE LUCAS MANUFACTURING COMPANY
Statement of Affairs—August 31, 1960

Book Value				Expected to Realize
	Assets pledged with fully secured creditors:			
$ 5,000	Land—estimated value		$ 5,350	
21,000	Buildings—estimated value		16,000	
	$27,500 Cost			
	6,500 Reserve for depreciation			
	$21,000 Book value			
12,500	Sinking fund		12,250	
	Total security for bonds payable		$33,600	
	Deduct: Bonds payable	$25,000		
	Accrued interest	500	25,500	$ 8,100
	Assets pledged with partially secured creditors:			
5,000	Bonds of Fairview Company—estimated value		$ 4,850	
100	Accrued interest on bonds		100	
2,350	Finished goods		1,200	
	Total security for $10,000 of notes payable—deducted contra		$ 6,150	
	Free assets:			
495	Cash		$ 495	
	Less worthless checks held		210	285
32,375	Accounts receivable			19,800
1,200	Notes receivable			800

Book Value			Expected to Rank
	Liabilities having priority:		
$ 225	Accrued taxes—deducted contra		
425	Reserve for federal income tax—deducted contra		
	Fully secured liabilities:		
25,000	Bonds payable—deducted contra		
500	Accrued bond interest—deducted contra		
	Partially secured liabilities:		
10,000	Notes payable	$10,000	
120	Accrued interest on notes payable	120	
	Total	$10,120	
	Deduct security—detailed contra	6,150	$ 3,970
	Unsecured liabilities:		
25,000	Notes payable		25,000
355	Accrued interest on notes payable		355
32,350	Accounts payable		32,350
	Contingent liabilities:		
400	Notes receivable discounted		400
3,000	Reserve for damage suit		

18	Accrued interest on notes receivable			18
5,900	Goods in process			
	Estimated value when completed		$ 6,000	
	Less cost to complete:			
	Raw materials worth	$500		
	Other expenditures	200	700	5,300
7,000	Raw materials			
	$1,000 to be used in finishing goods in process			500
	$6,000 to be sold			3,000
5,000	Bonds of Fairview Company			4,850
100	Accrued interest on bonds			100
23,700	Machinery—estimated value			18,500
	$31,000 Appraised value			
	7,300 Reserve for depreciation			
	$23,700 Book value			
10,000	Goodwill—No value			
125	Unexpired insurance			
500	Discount on capital stock			300
	Total free assets			$61,553
	Deduct liabilities having priority—per contra			650
	Net free assets			$60,903
	Estimated deficiency to unsecured creditors			2,172
$132,363				$63,075

	Possible liability for nondelivery of merchandise	1,000
	Reserves:	
1,500	Reserve for doubtful receivables	
	Stockholders' equity per books:	
25,000	Capital stock	
12,500	Sinking fund reserve	
9,012*	Deficit	
5,000	Unrealized gain on appraisal of machinery	
$132,363		$63,075

* Deduction.

THE LUCAS MANUFACTURING COMPANY

Deficiency Account—August 31, 1960

Deficit		$ 9,012	Estimated gain on land	$ 350
Estimated loss on:			Reserve for damage suit—not required	3,000
Buildings		5,000	Capital stock	25,000
Sinking fund		250	Sinking fund reserve	12,500
Bonds of Fairview Company		300	Estimated deficiency to unsecured creditors	2,172
Finished goods		1,150		
Cash		210		
Receivables:				
Accounts receivable	$12,575			
Notes receivable	400			
Total	$12,975			
Less reserve for doubtful receivables	1,500	11,475		
Goods in process		600		
Raw materials		3,500		
Machinery:				
Net book value	$23,700			
Less unrealized gain on appraisal	5,000			
Cost less depreciation	$18,700			
Less estimated realizable value	18,500	200		
Goodwill		10,000		
Unexpired insurance		125		
Discount on capital stock		200		
Possible liability for nondelivery of merchandise		1,000		
		$43,022		$43,022

If, in reality, no liability exists, then the reserve is in fact a surplus reserve and should be classified with the other stockholders' equity accounts, with no amount extended to the Expected to Rank column.

(3) Surplus reserves, such as Reserve for Sinking Fund.

Surplus reserves are part of stockholders' equity and should be classified with the other stockholders' equity accounts. The illustrative statement of affairs contains one such reserve—the Sinking Fund Reserve; its amount should not be extended to the Expected to Rank column.

Appraisal surplus is occasionally given a "reserve" label. Irrespective of the account title, appraisal surplus may be treated as any other stockholders' equity account, or it may be deducted from the book value of the property on the asset side, thus:

$18,700	Machinery		
		$31,000	Appraised value
		7,300	Reserve for depreciation
		$23,700	Net book value
		5,000	Unrealized gain per appraisal
		$18,700	Cost less depreciation

Contingent liabilities. The three following contingent liabilities appear in the statement of affairs on pages 170 and 171.

The company was contingently liable in the amount of $400 on notes receivable discounted. The discounted notes will probably have to be paid by the indorser, and the $400 is therefore extended to the Expected to Rank column. This $400 is also, of course, included in the $1,200 debit balance of the Notes Receivable account. Since it is expected that the remaining notes receivable will be collectible, $800 is extended to the Expected to Realize column on the asset side.

The company had set up a $3,000 reserve for possible payments to be made as damages under a pending suit. A favorable outcome of the suit now appears probable, and therefore no liability is extended to the Expected to Rank column.

On the other hand, the company is in default on a contract for the delivery of goods and will probably be required to pay $1,000 in settlement of damages. Although no reserve was set up, the item is shown under the Contingent Liabilities caption, with $1,000 extended to the Expected to Rank column.

Accrued interest. Accrued interest should appear in the statement of affairs immediately after the asset or liability on which the interest has accrued. If interest has accrued:

On an asset pledged as security, the interest as well as the principal should be shown as pledged. For an illustration, note the treatment of the accrued interest on the Fairview Company bonds under the caption, Assets Pledged with Partially Secured Creditors.

On a fully secured liability, the interest as well as the principal of the liability should be deducted from the security. For an illustration, note (under the caption, Assets Pledged with Fully Secured Creditors) the deduction of the bond principal and interest from the total security.

On a partially secured liability, the security should be deducted from the sum of the liability on principal and interest. For an illustration, refer to the data shown under the Partially Secured Liabilities caption.

Liabilities secured by more than one asset. The statement of affairs on pages 170 and 171 contains two illustrations of liabilities secured by more than one asset. Under the captions:

Assets Pledged with Fully Secured Creditors:

The company's land, buildings, and sinking fund are shown as security for the bonds payable.

Assets Pledged with Partially Secured Creditors:

Half of the company's Fairview bonds, the accrued interest thereon, and the finished goods are shown as security for the notes payable.

Unexpired insurance. There is a difference of opinion among accountants about whether the unexpired premiums on insurance policies should appear in the Expected to Realize column. While it is true that the unexpired premiums have a certain cash value at the time of preparing the statement of affairs, it is doubtful whether this value should be shown as a realizable asset. It cannot be realized without canceling the policies, and the policies cannot be safely canceled until the assets insured have been disposed of. As it is not certain when the policies can be canceled, there is no way of knowing what, if anything, can be realized from the policies, and it therefore seems more conservative to give them no realizable value. The total unexpired premium can properly be shown in the Expected to Realize column of a statement prepared in support of a request for a loan because of its going-concern value.

Assets partly pledged and partly free. The statement on pages 170 and 171 shows that $5,000 par value of the Fairview Company bonds are pledged with partially secured creditors, and that the other $5,000 par value are free and unpledged.

Deficit. A deficit should be shown on the liability side of the statement of affairs as a deduction in the Stockholders' Equity section, as illustrated on page 171.

Stock discount. When a stock discount account appears on the books of a corporation, the creditors may have a right to the payment of the discount, or as much thereof as is necessary to pay the liabilities in full. If it is possible to make collections from the stockholders, a value should be carried to the Expected to Realize column. The Expected to Realize column may show only the amount necessary to collect in order to avoid a deficiency to creditors. For instance, if there is a $10,000 stock discount account, and if, on the basis of the estimated realizable values of the assets, it appears necessary to collect $7,000 of the discount, only $7,000 need be entered in the Expected to Realize column. However, while it is true that no more will be collected from the stockholders than is necessary to pay the creditors in full, it seems desirable to show the full amount that can be collected, because of the possibility that the realizable values of the assets may have been overestimated. If this should prove to be true, there would be a corresponding increase in the amount to be collected from the stockholders, and it seems desirable to have the statement of affairs show the maximum amount which could be collected, thus:

Book Value			Expected to Realize
$5,000	Discount on capital stock		
	Estimated amount collectible...............	$4,000	
	Estimated amount required to pay creditors in full...		$2,000

Additional costs before realization. It is sometimes necessary to make additional expenditures on assets before they can be realized to the best advantage. As an example, the statement of affairs on page 171 shows, under the Goods in Process caption, that this inventory, when completed, will probably realize $6,000, but that raw materials worth $500 and other expenditures of $200 will be required for their completion. The proposed use, in the completion of goods in process, of raw materials having a realizable value of $500 is also shown under the Raw Materials caption.

It is also sometimes necessary to make allowance for the expectation that certain expenses will be incurred in winding up the affairs of a business. Such estimated expenses may be shown as deductions from the free assets with, but below, the liabilities having priority.

Accounts and notes payable. There is a tendency to assume that notes payable rank ahead of accounts payable as liabilities. This is a false assumption. Notes do not rank ahead of accounts unless the notes are secured and the accounts are not.

Statement of affairs for a partnership. If the business is operated by a partnership, the amount shown as the deficiency to creditors is even more tentative than when such information is reported in a statement of affairs for a corporation because the creditors may collect all or a portion of the deficiency from the partners' private resources.

The statement of affairs for a partnership may be made more informative if the deficiency and the prospective loss to the partners are set forth below the main part of the statement in the manner illustrated on page 177. The illustration is based on the facts used in The Smith Company illustration on page 163; the form of business organization is now assumed to be a partnership of Jones and Smith.

This form of statement may be used to advantage when one of the partners is insolvent and it is desired to show his personal creditors what equity he may have in the assets of the partnership after liquidation.

Statement for credit purposes. As noted earlier, the statement of affairs is of little, if any, importance in practice at the present time. It is possible that this condition is attributable to the fact that the statement of affairs has been identified with and believed useful only in the case of an insolvent business. There seems to be no conclusive reason why such a statement would not be valuable in instances where credit-granting decisions are to be made. For example, a statement of affairs could be submitted to a bank or other prospective creditor in support of a request for credit. The statement of affairs might be considered preferable to a balance sheet for such purpose, because it shows the estimated realizable values as well as the book values of the assets, and because the offsets of secured liabilities against pledged assets are clearly revealed.

If a statement of affairs is used for credit purposes, it will presumably show an excess of free assets over unsecured claims, thus indicating that the business is in such a good financial condition that all creditors may expect to be paid in full.

To illustrate the form of a statement of affairs for credit purposes, we may use the balance sheet of The Smith Company appearing on page 164 and increase the estimated realizable values of the assets. The illustrative statement appears on page 178.

	Net free assets		$22,050	
	Estimated deficiency to unsecured creditors—down		3,750	
$55,300			$25,800	$55,300
	Estimated loss to partners		$14,800	
	Division of loss, and resulting capitals:			

	Jones	Smith
Capitals per books	$8,000	$3,050
Loss	7,400	7,400
Balance	$ 600	$4,350*

	$14,800

* Debit balance.

	$25,800
Estimated deficiency to unsecured creditors—brought down	$ 3,750
Capital:	
Jones, capital	8,000
Smith, capital	3,050
	$14,800

THE SMITH COMPANY

Statement of Affairs—June 30, 1960

Book Value			Expected to Realize
	Assets pledged with fully secured creditors:		
$25,000	Land and buildings:		
	Estimated value	$26,500	
	Less mortgage payable—contra	15,000	$11,500
	Assets pledged with partially secured creditors:		
3,000	Bonds of *X* Company—deducted contra		
	Estimated value	$ 3,200	
	Free assets:		
300	Cash		300
9,000	Accounts receivable:		
	$7,000 Good		7,000
	2,000 Doubtful		1,500
	$9,000		
18,000	Merchandise		21,000
	Total free assets		$41,300
	Deduct liabilities having priority—per contra:		
	Accrued wages		250
$55,300			$41,050

Book Value			Expected to Rank
	Liabilities having priority:		
$ 250	Accrued wages—deducted contra		
	Fully secured liabilities:		
15,000	Mortgage payable—deducted contra		
	Partially secured liabilities:		
4,000	Notes payable	$4,000	
	Deduct bonds of *X* Company	3,200	$ 800
	Unsecured liabilities:		
25,000	Accounts payable		25,000
	Stockholders' equity per books:		
10,000	Capital stock		
1,050	Retained earnings		
	Total unsecured liabilities		$25,800
	Excess of net free assets over unsecured liabilities		15,250
$55,300			$41,050

CHAPTER TEN

Receiver's Accounts

Opening new books. It is rarely necessary to open new books for a company in financial difficulties unless the business is to be operated by a receiver in equity. The old books may be continued if the business is to be liquidated under bankruptcy proceedings or by an assignee under a voluntary assignment, or if the operations are to be continued by a representative of the creditors.

If operations are to be continued under the direction of a receiver in equity, it is usually desirable to open new books, to indicate that there has been a transfer of assets to the receiver, and to distinguish clearly between liabilities incurred prior to the receivership, which will be left on the old books, and liabilities incurred by the receiver, which will be recorded on the new books.

The order of the court appointing the receiver usually states the assets for which he is to assume responsibility; these assets may include part or all of the corporation's property. The receiver should open his books by taking up these assets, as well as any related contra accounts, such as Accumulated Depreciation or Allowance for Doubtful Accounts. His accountability therefor is shown by a credit to an account whose title reveals the source of the assets. But he should not take existing liabilities onto his books. The liabilities existing prior to the receivership should remain on the corporation's books, so as to maintain a distinction between prior and subsequent debts.

The entries showing the transfer of the assets are indicated below.

Receiver's Books	Corporation's Books
Assets taken over	*M*—Receiver
Related contra-asset accounts	Related contra-asset accounts
X Y Z Co.—In receivership	Assets

Payment of prior liabilities. Although the receiver does not take the liabilities onto his books, he may be ordered by the court to pay them. In that case, he should debit an account with the corporation and credit Cash. But his debit entry should not be made to the account which was credited initially to establish the accountability for the transferred assets; temporary accounts with the corporation should be set up to furnish detailed information which the receiver will need in preparing his reports. The entries on both sets of books showing the payment of liabilities existing prior to the receivership are indicated below.

Receiver's Books	Corporation's Books
X Y Z Co.—Bonds paid	Bonds payable
Cash	*M*—Receiver

Since the liabilities appear on the corporation's books instead of on the receiver's books, the accrued interest should be recorded on the corporation's books. The receiver, however, may be expected to pay the interest, and any entries for such payments should be made in such a way as to distinguish between interest accrued prior to the receivership and interest accrued during the receivership. This is done as follows:

Receiver's Books	Corporation's Books
X Y Z Co.—Accrued interest paid	Accrued interest payable
Cash	*M*—Receiver
X Y Z Co.—Interest paid	Interest expense
Cash	*M*—Receiver

Recording operations. The revenues from and expenses of operations should be recorded on the receiver's books, and, so far as possible, the receiver should follow the same classification of accounts as the corporation used, in order that comparative statements may be made for the receivership and prior periods.

Receiver's Books	Corporation's Books
Various expense accounts	
Cash or Accounts payable	
Cash or Accounts receivable	
Sales	
Cash or Accounts receivable	
Other revenue accounts	

Closing the books. At the end of each regular accounting period, and more frequently if desired, the receiver's books should be closed.

After the individual revenue and expense accounts have been closed, the resulting balance in the Revenue and Expense account is transferred to the account with the company which is in receivership.

After the receiver has made up his statements, the accounts showing liabilities carried on the company books but paid by the receiver should be closed by transfer to the main account with the company.

The income or loss shown by the receiver is taken into the corporation's books by a debit to the receiver's account and a credit to Revenue and Expense for a profit, or by a debit to Revenue and Expense and a credit to the receiver if a loss is incurred.

Any revenue or expense accounts on the corporation's books are then closed and the resulting net income or loss is transferred to Retained Earnings.

Periodical statements. The statements prepared at the end of each accounting period should include an income statement and a balance sheet, which should embody the information recorded in both the company's books and the receiver's books. The balances shown by the two sets of books may be assembled on working papers, as illustrated on page 188.

Close of the receivership. When the receivership is terminated, the receiver should close his books by recording the return to the corporation of such assets as he holds. Entries recording the termination of the receivership should be made on both sets of books, as follows:

Receiver's Books	Corporation's Books
X Y Z Co.—In receivership	Assets
Related contra-asset accounts	Related contra-asset accounts
Assets	*M*—Receiver

If any unpaid liabilities appear on the receiver's books, they should also be transferred to the company's books.

Illustration

Basis of illustration. *C* Company found itself in financial difficulties, and F. C. White was appointed receiver as of June 30, 1960. The books were closed, and the balance sheet on page 182 was prepared.

C COMPANY
Balance Sheet—June 30, 1960
Assets

Current assets:			
Cash		$ 1,800	
Accounts receivable	$50,000		
Less allowance for doubtful accounts	1,500	48,500	
Notes receivable		15,000	
Inventory		60,000	
Unexpired insurance		900	$126,200
Marketable securities			7,500
Fixed assets:			
Land		$10,000	
Building	$80,000		
Less accumulated depreciation	15,000	65,000	
Furniture and fixtures	$10,000		
Less accumulated depreciation	3,000	7,000	82,000
			$215,700

Liabilities and Stockholders' Equity

Current liabilities:		
Accounts payable	$95,000	
Notes payable	25,000	
Accrued mortgage interest	500	$120,500
Long-term liabilities:		
Mortgage payable		50,000
Stockholders' equity:		
Capital stock	$50,000	
Less deficit	4,800	45,200
		$215,700

On pages 184 to 187 will be found the entries, in journal form, recording the following facts on the books of the receiver and the books of the company. The transactions extend over a period of a year.

(a) The receiver, under order of the court, took over all of the assets shown by the foregoing balance sheet. Note that the receiver, in taking up the accounts receivable, debits Accounts Receivable—Old, to distinguish them from accounts receivable which will result from sales during the receivership. The allowance for doubtful accounts is similarly distinguished.
(b) Merchandise purchases on account, $120,000.
(c) Sales on account, $200,000.
(d) Cash collections amounting to $47,500 were obtained on the old accounts receivable. The remaining accounts were written off as worthless, by charges to the Allowance for Doubtful Accounts—Old and to a special loss account.
(e) The notes receivable, $15,000, were collected in full.

(f) Interest, $300, was collected on these notes.

(g) New accounts receivable amounting to $160,000 were settled by cash collections of $157,700 and the allowance of cash discounts of $2,300.

(h) Interest in the amount of $120 was collected on the marketable securities.

(i) The marketable securities were sold for $7,350, or at a loss of $150.

(j) Prior liabilities were paid as follows:

Accounts payable	$95,000
Notes payable	25,000
Mortgage installment	5,000
Mortgage interest accrued on June 30, 1960	500

(k) The mortgage interest accrued from June 30, 1960 to June 30, 1961 was $2,950.

(l) The receiver paid the interest accrued on the mortgage from June 30, 1960 to April 30, 1961, in the amount of $2,500.

(m) Receiver's accounts payable for merchandise purchases, in the amount of $75,000, were settled as follows: Cash payments were made in the amount of $73,600; and cash discounts were taken in the amount of $1,400.

(n) The following expenses were paid in cash:

Salaries and wages	$17,000
Freight in	350
Delivery expense	1,000
Taxes	1,200
General expense	7,500

(o) Depreciation for the year was provided in the following amounts:

Building	$3,200
Furniture and fixtures	1,000

(p) An allowance for doubtful accounts in the amount of $1,200 was provided against the new accounts receivable.

(q) The insurance premium expiration for the year, chargeable to operations, was $550.

The merchandise inventory on June 30, 1961 was $23,000.

Working papers. The working papers assembling the balances on the receiver's books and on the company's books appear on page 188. These working papers contain the information required for the balance sheet and the income statement on pages 189 and 190.

Receiver's Books

(a)	Cash	1,800	
	Accounts receivable—Old	50,000	
	Notes receivable	15,000	
	Inventory	60,000	
	Unexpired insurance	900	
	Marketable securities	7,500	
	Land	10,000	
	Building	80,000	
	Furniture and fixtures	10,000	
	Allowance for doubtful accounts—Old		1,500
	Accumulated depreciation—Building		15,000
	Accumulated depreciation—Furniture and fixtures		3,000
	C Company—In receivership		215,700
	To open the receiver's books.		
(b)	Purchases	120,000	
	Accounts payable		120,000
	Purchases of merchandise.		
(c)	Accounts receivable—New	200,000	
	Sales		200,000
	Sales on account.		
(d)	Cash	47,500	
	Allowance for doubtful accounts—Old	1,500	
	Loss on accounts receivable—Old	1,000	
	Accounts receivable—Old		50,000
	Collections on old accounts receivable.		
(e)	Cash	15,000	
	Notes receivable		15,000
	Collection of notes in full.		
(f)	Cash	300	
	Interest earned		300
	Interest collected on notes.		
(g)	Cash	157,700	
	Sales discounts	2,300	
	Accounts receivable—New		160,000
	Collections on new accounts receivable.		
(h)	Cash	120	
	Interest earned		120
	Collected on securities.		
(i)	Cash	7,350	
	Loss on securities	150	
	Marketable securities		7,500
	Sale of securities.		
(j)	*C* Company—Accounts payable paid	95,000	
	C Company—Notes payable paid	25,000	
	C Company—Mortgage payments	5,000	
	C Company—Accrued mortgage interest paid	500	
	Cash		125,500
	Payment of prior liabilities.		

Company's Books

(a)	F. C. White—Receiver	215,700	
	Allowance for doubtful accounts	1,500	
	Accumulated depreciation—Building	15,000	
	Accumulated depreciation—Furniture and fixtures	3,000	
	Cash		1,800
	Accounts receivable		50,000
	Notes receivable		15,000
	Inventory		60,000
	Unexpired insurance		900
	Marketable securities		7,500
	Land		10,000
	Building		80,000
	Furniture and fixtures		10,000
	To charge the receiver with the assets taken over.		

(j)	Accounts payable	95,000	
	Notes payable	25,000	
	Mortgage payable	5,000	
	Accrued mortgage interest	500	
	F. C. White—Receiver		125,500
	Liabilities paid by receiver.		
(k)	Mortgage interest expense	2,950	
	Accrued mortgage interest		2,950
	Interest for year ended June 30, 1961.		

Receiver's Books

		Dr.	Cr.
(l)	*C* Company—Mortgage interest paid	2,500	
	Cash		2,500
	Payment of interest from June 30, 1960 to April 30, 1961.		
(m)	Accounts payable	75,000	
	Cash		73,600
	Purchase discounts		1,400
	Payment for purchases.		
(n)	Salaries and wages	17,000	
	Freight in	350	
	Delivery expense	1,000	
	Taxes	1,200	
	General expense	7,500	
	Cash		27,050
	Payment of expenses.		
(o)	Depreciation—Building	3,200	
	Depreciation—Furniture and fixtures	1,000	
	Accumulated depreciation—Building		3,200
	Accumulated depreciation—Furniture and fixtures		1,000
	Depreciation provisions for the year.		
(p)	Bad debts expense—Receiver's sales	1,200	
	Allowance for doubtful accounts—New		1,200
	Provision for losses.		
(q)	Insurance expense	550	
	Unexpired insurance		550
	To write off insurance expired during year.		

Company's Books

(1)	Accrued mortgage interest	2,500	
	F. C. White—Receiver		2,500
	Payment of interest from June 30, 1960 to April 30, 1961.		

C COMPANY— IN RECEIVERSHIP
Working Papers
For the Year Ended June 30, 1961

	Receiver's Trial Balance		Company's Trial Balance		Eliminations		Income Statement		Balance Sheet	
Cash	1,120								1,120	
Accounts receivable—New	40,000								40,000	
Allowance for doubtful accounts—New		1,200								1,200
Inventory—June 30, 1960	60,000						60,000			
Unexpired insurance	350								350	
Land	10,000								10,000	
Building	80,000								80,000	
Accumulated depreciation—Building		18,200								18,200
Furniture and fixtures	10,000								10,000	
Accumulated depreciation—Furniture and fixtures		4,000								4,000
Accounts payable		45,000								45,000
Accrued mortgage interest				450						450
Mortgage payable				45,000						45,000
Capital stock				50,000						50,000
Retained earnings			4,800						4,800	
F. C. White—Receiver			87,700			87,700				
C Company—In receivership		215,700			215,700					
C Company—Accounts payable paid	95,000					95,000				
C Company—Notes payable paid	25,000					25,000				
C Company—Mortgage payments	5,000					5,000				
C Company—Mortgage interest paid	2,500					2,500				
C Company—Accrued mortgage interest paid	500					500				
Sales		200,000						200,000		
Purchases	120,000						120,000			
Freight in	350						350			
Salaries and wages	17,000						17,000			
Delivery expense	1,000						1,000			
Taxes	1,200						1,200			
Insurance expense	550						550			
General expense	7,500						7,500			
Depreciation—Building	3,200						3,200			
Depreciation—Furniture and fixtures	1,000						1,000			
Bad debts expense—Receiver's sales	1,200						1,200			
Sales discounts	2,300						2,300			
Purchase discounts		1,400						1,400		
Interest earned		420						420		
Mortgage interest expense			2,950				2,950			
Loss on accounts receivable—Old	1,000						1,000			
Loss on securities	150						150			
	485,920	485,920	95,450	95,450	215,700	215,700				
Inventory—June 30, 1961								23,000	23,000	
Net income							5,420			5,420
							224,820	224,820	169,270	169,270

Balance sheet. The balance sheet as of June 30, 1961, prepared from the working papers, appears below.

C COMPANY—IN RECEIVERSHIP
F. C. WHITE—RECEIVER
Balance Sheet—June 30, 1961

Assets

Current assets:			
Cash		$ 1,120	
Accounts receivable	$40,000		
Less allowance for doubtful accounts	1,200	38,800	
Inventory		23,000	
Unexpired insurance		350	$ 63,270
Fixed assets:			
Land		$10,000	
Building	$80,000		
Less accumulated depreciation	18,200	61,800	
Furniture and fixtures	$10,000		
Less accumulated depreciation	4,000	6,000	77,800
			$141,070

Liabilities and Stockholders' Equity

Current liabilities:			
Accounts payable		$45,000	
Accrued mortgage interest		450	$ 45,450
Long-term liabilities:			
Mortgage payable			45,000
Stockholders' equity:			
Capital stock		$50,000	
Retained earnings:			
Deficit—June 30, 1960	$ 4,800		
Net income for the year	5,420	620	50,620
			$141,070

Income statement. The income statement for the year ended June 30, 1961 is shown below. Observe how some of the financial aspects of the receiver's administration can be emphasized by the use of expanded account titles, as in the case of bad debts and interest earned, and special captions, as in the case of losses resulting from asset realizations.

C COMPANY—IN RECEIVERSHIP
F. C. WHITE—RECEIVER
Income Statement
For the Year Ended June 30, 1961

Sales			$200,000
Deduct sales discounts			2,300
Net sales			$197,700
Cost of goods sold:			
Inventory—June 30, 1960		$ 60,000	
Purchases	$120,000		
Deduct purchase discounts	1,400		
Net purchases	$118,600		
Freight in	350	118,950	
Total		$178,950	
Deduct inventory—June 30, 1961		23,000	155,950
Gross profit on sales (forward)			$ 41,750

C COMPANY—IN RECEIVERSHIP
F. C. WHITE—RECEIVER
Income Statement (Concluded)
For the Year Ended June 30, 1961

Gross profit on sales (brought forward)			$ 41,750
Deduct operating expenses:			
Salaries and wages		$ 17,000	
Delivery expense		1,000	
Taxes		1,200	
Insurance expense		550	
General expense		7,500	
Depreciation:			
Building	$ 3,200		
Furniture and fixtures	1,000	4,200	
Bad debts expense—Receiver's sales		1,200	32,650
Net operating income			$ 9,100
Deduct realization losses:			
Marketable securities		$ 150	
Accounts receivable—Old		1,000	1,150
Net income before interest			$ 7,950
Deduct mortgage interest expense		$ 2,950	
Add interest earned—Receiver's operations		420	2,530
Net income			$ 5,420

Closing the books. The following entries show the procedure of closing both sets of books.

Receiver's Books

Sales	200,000	
Purchase discounts	1,400	
Interest earned	420	
Inventory	23,000	
Revenue and expense		224,820
To close accounts with credit balances and record end-of-year inventory.		
Revenue and expense	216,450	
Inventory		60,000
Purchases		120,000
Freight in		350
Salaries and wages		17,000
Delivery expense		1,000
Taxes		1,200
Insurance expense		550
General expense		7,500
Depreciation—Building		3,200
Depreciation—Furniture and fixtures		1,000
Bad debts expense—Receiver's sales		1,200
Sales discounts		2,300
Loss on accounts receivable—Old		1,000
Loss on securities		150
To close accounts with debit balances.		
Revenue and expense	8,370	
C Company—In receivership		8,370
To close Revenue and Expense.		

C Company—In receivership	128,000	
C Company—Accounts payable paid		95,000
C Company—Notes payable paid		25,000
C Company—Mortgage payments		5,000
C Company—Mortgage interest paid		2,500
C Company—Accrued mortgage interest paid		500
To close the temporary accounts showing liability payments.		

Company's Books

F. C. White—Receiver	8,370	
Revenue and expense		8,370
To take up the net income before mortgage interest, as shown by the receiver's books.		
Revenue and expense	2,950	
Mortgage interest expense		2,950
To close the mortgage interest account.		
Revenue and expense	5,420	
Retained earnings		5,420
To close net income to Retained Earnings.		

Reconciliation of reciprocal accounts. After the two sets of books have been closed, trial balances should be drawn off and a statement should be prepared to reconcile the reciprocal accounts, F. C. White—Receiver and *C* Company—In Receivership, and to prove that the accounts on the two sets of books agree with the balance sheet.

C COMPANY—IN RECEIVERSHIP
Working Papers After Closing
June 30, 1961

	Receiver's Books	Company's Books	Eliminations	Combined
Debits				
Cash	1,120			1,120
Accounts receivable—New	40,000			40,000
Inventory	23,000			23,000
Unexpired insurance	350			350
Land	10,000			10,000
Building	80,000			80,000
Furniture and fixtures	10,000			10,000
F. C. White—Receiver		96,070	96,070	
	164,470	96,070	96,070	164,470
Credits				
Accounts payable	45,000			45,000
Accrued mortgage interest		450		450
Mortgage payable		45,000		45,000
Allowance for doubtful accounts—New	1,200			1,200
Accumulated depreciation—Building	18,200			18,200
Accumulated depreciation—Furniture and fixtures	4,000			4,000
C Company—In receivership	96,070		96,070	
Capital stock		50,000		50,000
Retained earnings		620		620
	164,470	96,070	96,070	164,470

Closing the receivership. If the receivership is terminated at this point, an entry should be made on the receiver's books as follows:

Accounts payable	45,000	
Allowance for doubtful accounts—New	1,200	
Accumulated depreciation—Building	18,200	
Accumulated depreciation—Furniture and fixtures	4,000	
C Company—In receivership	96,070	
Cash		1,120
Accounts receivable—New		40,000
Inventory		23,000
Unexpired insurance		350
Land		10,000
Building		80,000
Furniture and fixtures		10,000
To close the receiver's books, recording the termination of the receivership.		

The company's books should contain a contra entry, debiting the assets, crediting the liabilities and the contra-asset accounts, and crediting F. C. White—Receiver for the net assets. However, the word "New" may be omitted from the account titles for Accounts Receivable and Allowance for Doubtful Accounts; such a distinction is of importance only on the receiver's books.

CHAPTER ELEVEN

Realization and Liquidation Reports

Realization and Liquidation Account

Introduction. The special-purpose statement used to show a court or the creditors of an insolvent business what has been accomplished, during a stated period, with regard to the realization of assets and the liquidation of liabilities is conventionally called a *realization and liquidation account.* The use of the word "account" in the title of the statement is probably attributable to the fact that it is drawn up in account form with debit and credit sides. Since it is not in the ledger, it would be more appropriately called a statement.

As generally prepared, the statement constitutes a report of a trustee or other duly designated agent who has had charge of the affairs of a business in financial difficulties. The statement is usually supplemented by a summary cash account, an income statement, and a balance sheet.

It should be recognized that a court having jurisdiction in such matters may prescribe the form for such reports submitted to it.

The statement form illustrated in this chapter (see page 194) is considered acceptable by accountants and may be used in the absence of court-prescribed rules and regulations.

JAMES BUTLER
F. S. MONTGOMERY—TRUSTEE IN BANKRUPTCY
Realization and Liquidation Account
June 16, 1961 to August 31, 1961

Assets to be realized:			Liabilities to be liquidated:		
(a) Land and buildings	$14,500		(a) Accounts payable		$28,000
(a) Merchandise	8,000				
(a) Accounts receivable	7,000		Liabilities assumed:		
(a) Notes receivable	3,000	$32,500	(b) Accounts payable		500
Assets acquired:			Supplementary credits:		
(b) Merchandise		500	(f) Interest on notes receivable		10
Supplementary charges:			Realization proceeds:		
(g) Expense		200	(c) Merchandise	$ 5,500	
			(d) Accounts receivable	4,500	
			(e) Notes receivable	2,000	12,000
Liabilities liquidated:					
(h) Accounts payable		11,000	Assets not realized:		
			Accounts receivable	$ 2,500	
Liabilities not liquidated:			Land and buildings	14,500	17,000
Accounts payable		17,500			
			Net loss		4,190
		$61,700			$61,700

Trustee's cash account. The cash account to accompany the statement on page 194 is shown below:

JAMES BUTLER
F. S. MONTGOMERY—TRUSTEE IN BANKRUPTCY
Cash Account
June 16, 1961 to August 31, 1961

(a) Balance—June 16	$ 700	(g) Expense	$ 200
(c) Merchandise	5,500	(h) Accounts payable	11,000
(d) Accounts receivable	4,500	Balance—August 31	1,510
(e) Notes receivable	2,000		
(f) Int. on notes receivable	10		
	$12,710		$12,710

Procedure in preparing statements. The letters in the cash account and in the realization and liquidation account are included merely for purposes of explanation in this chapter.

The realization and liquidation account and the cash account can be prepared by making offsetting debit and credit entries as illustrated below. They should be traced to the statements.

(a) The assets, liabilities, and capital as of June 16 are "journalized" in the statements as follows:
Debits: Under Assets to be Realized—all noncash assets.
In the cash account—the opening balance.
Credits: Under Liabilities to be Liquidated—all liabilities.
In a memorandum capital account—the opening owner's equity, thus:

Memorandum Capital Account

	(a) Owner's equity, June 16 5,200

(b) Merchandise was purchased at a cost of $500:
Debit: Under Assets Acquired—the cost of the merchandise.
Credit: Under Liabilities Assumed—the amount of the account payable.

(c) Merchandise was sold for cash, $5,500:
Debit: In the cash account.
Credit: Under Realization Proceeds.

(d) Accounts receivable were collected in the amount of $4,500:
Debit: In the cash account.
Credit: Under Realization Proceeds.

(e) Notes receivable were collected in the amount of $2,000:
Debit: In the cash account.
Credit: Under Realization Proceeds.

(f) Interest on notes receivable was collected in the amount of $10:
Debit: In the cash account.
Credit: Under Supplementary Credits.

(g) Expenses were paid in the amount of $200:
Debit: Under Supplementary Charges.
Credit: In the cash account.

(h) Accounts payable were paid in the amount of $11,000:
Debit: Under Liabilities Liquidated.
Credit: In the cash account.

To complete the realization and liquidation account, the assets (other than cash) at the end of the period were entered under the Assets not Realized caption; the unpaid liabilities were entered under the Liabilities not Liquidated caption; and the loss was entered to balance the statement.

Elements of the statement. As shown by the illustration on page 194, the realization and liquidation statement reports on the following matters:

With respect to assets:

Assets to be realized (Carrying value of assets, other than cash, at the opening date of the statement)	Realization proceeds (Proceeds from disposal of assets)
Assets acquired (Additional noncash assets discovered or acquired)	Assets not realized (Assets at closing date of statement)

With respect to liabilities:

Liabilities liquidated (Payments to creditors)	Liabilities to be liquidated (Liabilities at opening date of statement)
Liabilities not liquidated (Liabilities at closing date)	Liabilities assumed (Liabilities discovered or incurred)

With respect to revenue and expense:

Supplementary charges (Expenses other than asset expirations and *not* including specific losses from asset realization)	Supplementary credits (Revenues, including miscellaneous income, but *not* including specific gains on realization)
Gain for the period -or-	*Loss for the period*

If one finds it difficult to understand why this statement, which shows facts with respect to assets and liabilities as well as facts with respect to revenue and expense, should have a balance showing a loss or a gain, the reason should become apparent from the following regrouping of the major items of the statement presented on page 194:

Facts about assets:			
Debit side of statement:			
Assets to be realized	$32,500		
Assets acquired	500	$33,000	
Credit side of statement:			
Proceeds from asset realization	$12,000		
Assets not realized	17,000	29,000	
Loss on realization of assets			$4,000
Facts about liabilities:			
Credit side of statement:			
Liabilities to be liquidated	$28,000		
Liabilities assumed	500	$28,500	
Debit side of statement:			
Liabilities liquidated	$11,000		
Liabilities not liquidated	17,500	28,500	
Gain on settlement of liabilities—none		—	
Facts about revenue and expense:			
Supplementary charges—expense		$ 200	
Supplementary credits—interest earned		10	
Net expense			190
Net loss			$4,190

Income statement and balance sheet. To prove the loss shown in the realization and liquidation account, the following realization income and loss statement was prepared:

JAMES BUTLER
F. S. MONTGOMERY—TRUSTEE IN BANKRUPTCY
Realization Income and Loss Statement
June 16, 1961 to August 31, 1961

Losses on realization:		
Merchandise	$3,000	
Notes receivable	1,000	
Total		$4,000
Expense		200
Total loss and expense		$4,200
Deduct interest on notes receivable		10
Net loss		$4,190

This loss was then deducted from the $5,200 credit in the memorandum capital account (which showed the owner's equity at the beginning of the period) to determine the owner's equity of $1,010 at the end of the period; and the following balance sheet was prepared from the data shown by the Assets not Realized and the Liabilities not Liquidated sections of the realization and liquidation

account, by the balance in the cash account, and by the balance in the memorandum capital account.

JAMES BUTLER
F. S. MONTGOMERY—TRUSTEE IN BANKRUPTCY
Balance Sheet—August 31, 1961

Assets		Liabilities and Owner's Equity	
Cash	$ 1,510	Accounts payable	$17,500
Accounts receivable	2,500	James Butler, capital	1,010
Land and buildings	14,500		
	$18,510		$18,510

Contra-asset accounts. If contra accounts have been set up against the assets, they should be deducted from the assets in the Assets to be Realized section, thus:

Assets to be realized:		
Timber lands	$300,000	
Less accumulated depletion	75,000	$225,000
Machinery	$ 15,000	
Less accumulated depreciation	3,000	12,000
Accounts receivable	$ 1,250	
Less allowance for doubtful accounts	350	900

When the assets not realized are entered at the close of the statement, the contra account should again be deducted. Assuming that the operations of the business have been continued, that $5,000 of additional depletion and $600 of depreciation have been provided, and that $700 of the accounts receivable have been collected while $100 has been charged to the allowance account, the balances of the asset and related contra accounts would be shown thus:

Assets not realized:		
Timber lands	$300,000	
Less accumulated depletion	80,000	$220,000
Machinery	$ 15,000	
Less accumulated depreciation	3,600	11,400
Accounts receivable	$ 450	
Less allowance for doubtful accounts	250	200

The $5,000 depletion and the $600 depreciation would appear in the realization income and loss statement and would affect the final gain or loss figure reported in the realization and liquidation account. The $100 loss on accounts receivable, on the other hand, would not appear in the income and loss statement, nor affect the gain or loss results reported by the realization and liquidation account, because the loss was absorbed in the contra account.

Sales and purchases. If business operations are continued, the materials or merchandise purchased may be shown in the

realization and liquidation account as assets acquired or as supplementary charges, and sales may be shown as assets realized or as supplementary credits.

Accruals. The question of accruals presents some difficulty. To illustrate, assume that $15 of accrued interest on notes receivable is shown in the Assets to be Realized section. Assume that by the time the notes are collected, $5 additional interest has accrued, so that $20 is collected. The accrual and the collection of interest may be handled in either of two ways:

First method:

Cash	20	
Realization proceeds		15
Supplementary credits		5

Second method:

Assets acquired (accrued interest)	5	
Supplementary credits		5
Cash	20	
Realization proceeds		20

Similar methods may be used for dealing with accrued expenses.

Discounts. Two methods are available for dealing with discounts and allowances, either to customers or from creditors. To illustrate, assume that $8,000 of accounts receivable are taken over by the receiver, who continues operations. Discounts of $75 and allowances of $150 are given to the customers, and the balance is collected in full. The two methods of dealing with the discounts and allowances are shown below.

First method:

Assets to be realized:		Realization proceeds:	
Accounts receivable	$8,000	Accounts receivable	$7,775

By this method, the discounts and allowances are not shown, but the $225 excess of debits over credits will be included in the loss on realization.

Second method:

Assets to be realized:						
Accounts receivable		$8,000				
Supplementary charges:			Realization proceeds:			
Discounts to customers	$ 75		Accounts receivable:			
Allowances to customers	150	225	Discounts	$ 75		
			Allowances	150		
			Cash	7,775	$8,000	

Similar methods may be used for discounts and allowances from creditors

Premium or discount on securities. If securities owned are sold at a gain or a loss, the gain or the loss, as noted earlier, is not shown as a separate item. The book value is shown under Assets to be Realized, and the price received is shown under Realization Proceeds. But if outstanding bonds or other liabilities are retired at a premium or a discount, the face of the liability should be shown under Liabilities Liquidated; any discount on retirement should be shown under Supplementary Credits, and any premium on retirement should be shown under Supplementary Charges.

To illustrate, assume that a company holds $5,000 of bonds for which it paid par and that these bonds are sold for $4,960. The company also has $20,000 of bonds outstanding which are retired for $19,000. The facts may be shown thus:

Realization and Liquidation Account

Assets to be realized:		Liabilities to be liquidated:	
Bonds of *X* Company	$ 5,000	Bonds payable	$20,000
Liabilities liquidated:		Supplementary credits:	
Bonds payable	20,000	Discount on retirement of bonds payable	1,000
		Realization proceeds:	
		Bonds of *X* Company	4,960

Composition with creditors. If creditors agree to accept a certain number of cents on the dollar, the old indebtedness is, according to law, canceled by the agreement and a new indebtedness takes its place. Assume that there were $20,000 of accounts payable, that the creditors agreed to accept seventy-five cents on the dollar, and that twenty cents (of the seventy-five) had been paid at the time of preparing the realization and liquidation account; the facts would be shown as follows:

		Liabilities to be liquidated:	
		Accounts payable	$20,000
Liabilities liquidated:		Liabilities incurred:	
Accounts payable—settled at 75¢ on the dollar	$20,000	Accounts payable—composition agreement to accept 75¢ on the dollar in settlement of accounts payable	15,000
Accounts payable—payments under composition agreement	4,000		
Liabilities not liquidated:		Supplementary credits:	
Accounts payable	11,000	Composition gain	5,000

Old and new accounts. If the receiver continues operations, any liabilities which he incurs should be kept entirely separate from the old liabilities, because of the prior rights which the receiver's creditors enjoy. The two classes may be designated as old accounts payable and receiver's accounts payable or receiver's certificates.

Accounts receivable should be similarly separated, not because of any difference in the claims against the two classes of debtors, but because, with respect to old accounts receivable, the receiver is responsible only for diligence in collection, whereas, with respect to new accounts, he is responsible also for the exercise of good judgment in granting credit.

Continued operations. When operations are continued by a receiver, the realization and liquidation account is more complicated because of the necessity of showing operating transactions. However, the "journalizing" procedure can still be used effectively in the preparation of the statements. The statements on pages 202 and 203 are based on the illustration, in the preceding chapter, of the operations of F. C. White, as receiver for *C* Company. Letters have again been inserted in the statements for reference purposes. The following details should be traced to the statements:

(a) The assets, liabilities, and stockholders' equity as of June 30, 1960, the beginning of the receivership, are entered in the statement as follows:
 Debits: Cash—in the cash account.
  Other assets—under Assets to be Realized.
 Credits: Liabilities—under Liabilities to be Liquidated.
  Capital Stock and Deficit—in the memorandum capital account.

(b) Purchases on account, $120,000:
 Debit: Purchases—under Supplementary Charges.
 Credit: Accounts Payable—New—under Liabilities Assumed.

(c) Sales on account, $200,000:
 Debit: Accounts Receivable—New—under Assets Acquired.
 Credit: Sales—under Supplementary Credits.

(d) Cash, $47,500, was collected on old accounts receivable; the remaining accounts were uncollectible:
 Debit: Cash—in the cash account.
 Credit: Accounts Receivable—Old—under Realization Proceeds.

(e) The notes receivable, $15,000, were collected in full:
 Debit: Cash—in the cash account.
 Credit: Notes Receivable—Old—under Realization Proceeds.

(f) Interest in the amount of $300 was collected on the notes:
 Debit: Cash—in the cash account.
 Credit: Interest on Notes Receivable—under Supplementary Credits. (*Continued on page 204.*)

C COMPANY—IN RECEIVERSHIP—F. C. WHITE, RECEIVER
Realization and Liquidation Account
July 1, 1960 to June 30, 1961

Assets to be realized:			
(a) Accounts receivable—Old	$50,000		
(a) Less allowance for doubtful accounts	1,500	$ 48,500	
(a) Notes receivable—Old		15,000	
(a) Inventory		60,000	
(a) Unexpired insurance		900	
(a) Marketable securities		7,500	
(a) Land		10,000	
(a) Building	$80,000		
(a) Less accumulated depreciation	15,000	65,000	
(a) Furniture and fixtures	$10,000		
(a) Less accumulated depreciation	3,000	7,000	$213,900
Assets acquired:			
(c) Accounts receivable—New			200,000
Supplementary charges:			
(b) Purchases		$120,000	
(g) Sales discounts		2,300	
(k) Mortgage interest—June 30, 1960 to June 30, 1961		2,950	
(n) Salaries and wages		17,000	
(n) Freight in		350	
(n) Delivery expense		1,000	
(n) Taxes		1,200	
(n) General expense		7,500	152,300

Liabilities to be liquidated:			
(a) Accounts payable—Old		$ 95,000	
(a) Notes payable—Old		25,000	
(a) Accrued mortgage interest		500	
(a) Mortgage payable		50,000	$170,500
Liabilities assumed:			
(b) Accounts payable—New		$120,000	
(k) Accrued mortgage interest—from June 30, 1960 to June 30, 1961		2,950	122,950
Supplementary credits:			
(c) Sales		$200,000	
(f) Interest on notes receivable		300	
(h) Interest on securities		120	
(m) Purchase discounts		1,400	201,820
Realization proceeds:			
(d) Accounts receivable—Old		$ 47,500	
(e) Notes receivable—Old		15,000	
(g) Accounts receivable—New		160,000	
(i) Marketable securities		7,350	229,850
Assets not realized:			
Accounts receivable—New	$40,000		
Less allowance for doubtful accounts	1,200	$ 38,800	
Inventory		23,000	
Unexpired insurance		350	
Land		10,000	

Liabilities liquidated:			Building	$80,000		
(j) Accounts payable—Old	$ 95,000		Less accumulated depreciation	18,200	61,800	
(j) Notes payable—Old	25,000		Furniture and fixtures	$10,000		
(j) Accrued mortgage interest—June 30, 1960	500		Less accumulated depreciation	4,000	6,000	139,950
(j) Mortgage installment	5,000					
(l) Accrued mortgage interest from June 30, 1960 to April 30, 1961	2,500					
(m) Accounts payable—New	75,000	203,000				
Liabilities not liquidated:						
Accounts payable—New	$ 45,000					
Mortgage payable	45,000					
Accrued mortgage interest	450	90,450				
Net income		5,420				
		$865,070				$865,070

Cash Account—July 1, 1960 to June 30, 1961

(a) Balance—June 30, 1960	$ 1,800	(j) Accounts payable—Old	$ 95,000
(d) Accounts receivable—Old	47,500	(j) Notes payable—Old	25,000
(e) Notes receivable—Old	15,000	(j) Mortgage installment	5,000
(f) Interest on notes receivable	300	(j) Accrued mortgage interest—June 30, 1960	500
(g) Accounts receivable—New	157,700	(l) Mortgage interest—June 30, 1960 to April 30, 1961	2,500
(h) Interest on securities	120	(m) Accounts payable—New	73,600
(i) Marketable securities	7,350	(n) Salaries and wages	17,000
		(n) Freight in	350
		(n) Delivery expense	1,000
		(n) Taxes	1,200
		(n) General expense	7,500
		Balance—June 30, 1961	1,120
	$229,770		$229,770

Memorandum Capital Account

(a) Deficit—June 30, 1960	$ 4,800	(a) Capital stock	$50,000
Stockholders' equity—June 30, 1961	50,620	Net income	5,420
	$55,420		$55,420

(g) New accounts receivable amounting to $160,000 were settled by cash collections of $157,700 and the allowance of cash discounts of $2,300:

Debits: Cash, $157,700—in the cash account.
Sales Discounts, $2,300—under Supplementary Charges.
Credit: Accounts Receivable—New, $160,000—under Realization Proceeds.

(h) Interest in the amount of $120 was collected on the marketable securities:

Debit: Cash—in the cash account.
Credit: Interest on Securities—under Supplementary Credits.

(i) The marketable securities were sold for $7,350:

Debit: Cash—in the cash account.
Credit: Marketable Securities—under Realization Proceeds.

(j) Prior liabilities were paid as follows: accounts payable, $95,000; notes payable, $25,000; mortgage installment, $5,000; mortgage interest accrued to June 30, 1960, $500:

Debits: Accounts Payable—Old—under Liabilities Liquidated.
Notes Payable—Old—under Liabilities Liquidated.
Mortgage Installment—under Liabilities Liquidated.
Accrued Mortgage Interest—under Liabilities Liquidated.
Credit: Cash—in the cash account.

(k) The mortgage interest accrued from June 30, 1960 to June 30, 1961 was $2,950:

Debit: Mortgage Interest—under Supplementary Charges.
Credit: Accrued Mortgage Interest—under Liabilities Assumed.

(l) The receiver paid the accrued interest from June 30, 1960 to April 30, 1961, in the amount of $2,500:

Debit: Accrued Mortgage Interest—under Liabilities Liquidated.
Credit: Cash—in the cash account.

(m) Receiver's accounts payable for merchandise purchases were settled in the amount of $75,000 as follows: cash payment, $73,600; cash discounts taken, $1,400:

Debit: Accounts Payable—New, $75,000—under Liabilities Liquidated.

Credits: Cash, $73,600—in the cash account.
Purchase Discounts, $1,400—under Supplementary Credits.

(n) The receiver paid expenses, as detailed in the statements:
Debits: Salaries and Wages—under Supplementary Charges.
Freight In—under Supplementary Charges.
Delivery Expense—under Supplementary Charges.
Taxes—under Supplementary Charges.
General Expense—under Supplementary Charges.
Credit: Cash—in the cash account.

The assets as of June 30, 1961 (after providing for depreciation of the building and of the furniture and fixtures and for losses on bad debts, and after writing off the insurance premiums expired during the year) were next entered under Assets not Realized; the liabilities at the end of the period were entered under Liabilities not Liquidated; and the statement was balanced by entering the net income for the year. This net income should also be entered in the memorandum capital account to determine whether the resulting stockholders' equity will balance the net assets.

In addition to the realization and liquidation account and the cash account, the receiver should prepare an income statement similar to the one on pages 189 and 190 of the preceding chapter, and a balance sheet similar to the one on page 189 of the preceding chapter.

Statement of Realization, Liquidation, and Operations

Purpose. The realization and liquidation account illustrated in the preceding portion of this chapter is the traditional form for the presentation of data with respect to realization and liquidation, but it is somewhat confusing and is not admirably adapted to its purpose.

An alternative statement which seems to present the information somewhat more clearly is illustrated in the remainder of the chapter.

First illustration. The statement on page 206 is based on the same facts as those used in the illustration on page 194. Attention is directed to the following matters:

The financial condition at the beginning of the period is shown in the first column; the financial condition at the end of the period is shown in the last column. (*Continued on page 207.*)

(First Illustration)

JAMES BUTLER
F. S. MONTGOMERY—TRUSTEE
Statement of Realization, Liquidation, and Operations
June 16, 1961 to August 31, 1961

		Balances, June 16, 1961	Miscellaneous		Cash		Revenue and Expense		Balances, August 31, 1961
			Charges	Credits	Receipts	Payments	Charges	Credits	
Assets:									
Cash:									
Balance, June 16, 1961	$ 700	$ 700							
Total receipts	12,010								
Total	$12,710								
Total payments	11,200								
Balance, August 31, 1961	$ 1,510								$ 1,510
Merchandise		8,000							
Purchases			$ 500						
Proceeds of sales					$ 5,500				
Loss on sales							$ 3,000		
Accounts receivable		7,000							
Collections					4,500				
Balance									2,500
Notes receivable		3,000							
Collections					2,000				
Losses							1,000		
Interest on notes receivable					10			$ 10	
Land and building		14,500							14,500
Total assets		$33,200							$18,510
Liabilities:									
Accounts payable		$28,000							
Incurred for purchases				$ 500					
Paid						$11,000			
Unpaid									$17,500
Expenses						200	200		
Total liabilities		$28,000							$17,500
Owner's Equity:									
James Butler, capital		$ 5,200							
Net loss								4,190	
Balance, August 31, 1961									$ 1,010
			$ 500	$ 500	$12,010	$11,200	$ 4,200	$ 4,200	

The cash receipts and disbursements are detailed in the two Cash columns. After these two columns are footed, their totals are entered in the cash summary at the top of the statement, to determine the end-of-period cash balance.

The changes in the other assets are fully described. For example, starting with merchandise carried at $8,000, the trustee made purchases of $500, received $5,500 as proceeds of sales, lost $3,000 on sales, and had no merchandise at the end of the period.

The changes in each liability are similarly described. Starting with accounts payable of $28,000, the trustee incurred $500 of liabilities for purchases, made payments of $11,000, and had $17,500 of unpaid accounts at the end of the period.

The Owner's Equity section shows the owner's equity at the beginning of the period, the net loss for the period (as a balancing figure in the Revenue and Expense columns), and the owner's equity at the end of the period.

The Miscellaneous columns include all items not classified in the Cash and the Revenue and Expense columns.

The Revenue and Expense columns show the details accounting for the net loss of $4,190. Glancing down these columns, we find that $3,000 was lost on sales of merchandise, and $1,000 on uncollectible notes receivable; that $200 of expenses were incurred; and that $10 of interest was earned on notes.

Second illustration. The statement on pages 208 and 209 is based on the same facts as the illustration on pages 202 and 203.

Attention is directed to the method of introducing income items into the Assets section of the statement. It will be noted that the interest on notes receivable and on securities is shown immediately below the notes and the securities. Income should be shown in the Assets section even if there were no accrued items to appear in the balance columns at either the beginning or the end of the period.

Attention is also directed to the method of introducing expense items into the Liabilities section of the statement. Interest on the mortgage is shown immediately below the mortgage. The absence of balances on the lines for salaries and wages, freight in, delivery expense, taxes, and general expense shows that there were no unpaid liabilities for such expenses at either the beginning or the end of the period.

In the solution of problems which require the preparation of statements of this nature, space should be left after each asset and liability sufficient to provide for the requirements of the problem.

(Second Illustration)

C COMPANY—IN RECEIVERSHIP
F. C. WHITE—RECEIVER
Statement of Realization, Liquidation, and Operations
Year Ended June 30, 1961

		Balances, June 30, 1960	Miscellaneous		Cash		Revenue and Expense		Balances, June 30, 1961
			Charges	Credits	Receipts	Payments	Charges	Credits	
Assets:									
Cash:									
Balance, June 30, 1960	$ 1,800	$ 1,800							
Total receipts	227,970								
Total	$229,770								
Total payments	228,650								
Balance, June 30, 1961	$ 1,120								$ 1,120
Accounts receivable—Old		50,000							
Collections					$ 47,500				
Losses charged to the allowance account				$ 1,500					
Losses charged to revenue and expense							$ 1,000		
Allowance for doubtful accounts		1,500*							
Charges for losses			$ 1,500						
Accounts receivable—New—from sales								$200,000	
Collections and cash discounts					157,700		2,300		
Balance uncollected									40,000
Allowance for doubtful accounts—new accounts							1,200		1,200*
Notes receivable—Old		15,000			15,000				
Interest on notes receivable					300			300	
Merchandise		60,000							
Purchases			120,000						
Cost of goods sold							157,000		
Inventory, June 30, 1961									23,000
Marketable securities		7,500							
Proceeds of sale and loss					7,350		150		
Interest on securities					120			120	
Land		10,000							10,000
Building		80,000							80,000
Accumulated depreciation—Building		15,000*							
Depreciation for the year							3,200		
Balance, June 30, 1961									18,200*

Furniture and fixtures	10,000							10,000
Accumulated depreciation—Furniture and fixtures	3,000*							
Depreciation for the year						1,000		
Balance, June 30, 1961								4,000*
Unexpired insurance	900							
Expired during the year						550		
Balance—unexpired								350
Total assets	$215,700							$141,070
LIABILITIES:								
Accounts payable—Old	$ 95,000							
Payments					$ 95,000			
Accounts payable—New—from purchases			120,000					
Payments and discounts					73,600		1,400	
Balance								$ 45,000
Notes payable—Old	25,000							
Payments					25,000			
Mortgage payable	50,000							
Payments					5,000			
Balance								45,000
Mortgage interest:								
Accrued, June 30, 1960	500				500			
Accrued during the year					2,500	2,950		450
Salaries and wages					17,000	17,000		
Freight in					350	350		
Delivery expense					1,000	1,000		
Taxes					1,200	1,200		
General expense					7,500	7,500		
Total liabilities	$170,500							$ 90,450
STOCKHOLDERS' EQUITY:								
Capital stock	$ 50,000							$ 50,000
Deficit, June 30, 1960	4,800*							
Net income for the year						5,420		
Retained earnings, June 30, 1961								620
Total stockholders' equity	$ 45,200							$ 50,620
		$121,500	$121,500	$227,970	$228,650	$201,820	$201,820	

* Deduction.

CHAPTER TWELVE

Compound Interest and Annuities—Fundamentals

Purpose of Chapters 12 and 13. A knowledge of compound interest and annuities is essential to an understanding of some of the accounting procedures relating to depreciation, investments, and long-term debt. In the chapters in *Principles of Accounting—Intermediate* dealing with these subjects, the procedures requiring a knowledge of compound interest and annuities were not discussed. They are dealt with in Chapter 13.

Students who have had a course in mathematics of investment presumably can proceed immediately to Chapter 13. Chapter 12, on fundamentals, is intended for students who have not had such a course. It consists of two sections:

Pages 211–227. The use of tables of amounts and present values, with illustrations showing how such tables are constructed. Those who desire only such minimum knowledge of basic procedures as is essential to an understanding of the accounting applications discussed in Chapter 13 will find it in this section.

Problems 1 to 34, inclusive, relate to this section.

Pages 228–231. This section illustrates methods of solving some problems with unusual complications.

Problems 35 to 46, inclusive, relate to this section.

SECTION 1

Rate per period; number of periods. Data with respect to compound interest accumulations usually are stated in the following terms:

Rate per year.
Number of years.
Number of compoundings per year.

For instance:

"at 5% per year for 10 years, compounded annually"
"at 6% per year for 4 years, compounded semiannually"
"at 6% per year for 4 years, compounded quarterly"
"at 6% per year for 4 years, compounded monthly"

Since interest tables are stated in terms of rate per period and number of periods, it is desirable to convert such expressions as the foregoing into expressions of rate per period of compounding (represented by the symbol i) and total number of such periods (represented by the symbol n). Thus:

If the stated facts are "at 5% per year for 10 years, compounded annually,"

$$i = .05$$
$$n = 10$$

If the stated facts are "at 6% per year for 4 years, compounded semiannually,"

$$i = .03$$
$$n = 8$$

If the stated facts are "at 6% per year for 4 years, compounded quarterly,"

$$i = .015$$
$$n = 16$$

If the stated facts are "at 6% per year for 4 years, compounded monthly,"

$$i = .005$$
$$n = 48$$

If a rate per year is stated with no information relative to frequency of compounding, it is assumed that interest is compounded annually.

Amount of a Single Investment. Compound Interest

Table of amount of 1. The table on page 212 shows the amount of 1 ($1, £1, or other monetary unit) at the end of each of the stated periods, compounded at various rates.

Amount of 1.00 at Compound Interest

Periods	3%	3½%	4%	4½%	5%
1	1.030000	1.035000	1.040000	1.045000	1.050000
2	1.060900	1.071225	1.081600	1.092025	1.102500
3	1.092727	1.108718	1.124864	1.141166	1.157625
4	1.125509	1.147523	1.169859	1.192519	1.215506
5	1.159274	1.187686	1.216653	1.246182	1.276282
6	1.194052	1.229255	1.265319	1.302260	1.340096
7	1.229874	1.272279	1.315932	1.360862	1.407100
8	1.266770	1.316809	1.368569	1.422101	1.477455

A more comprehensive table appears in an appendix.

Construction of the table. A table of amounts of 1 may be compiled in the manner shown below, using a 3% rate for the purposes of illustration.

	1.00	Investment at beginning of first period
Multiply by	1.03	Ratio of increase per period
	1.03	Amount at end of 1 period
Multiply by	1.03	
	1.0609	Amount at end of 2 periods
Multiply by	1.03	
	1.092727	Amount at end of 3 periods
Multiply by	1.03	
	1.125509	Amount at end of 4 periods

Since the interest rate is represented by the symbol i, the ratio of increase is $1 + i$. The amount of 1 may be expressed by the symbol a. Then the formula for computing the amount of 1 is:

$$a = (1 + i)^n$$

For instance, at 3% for 4 periods,

$$\begin{aligned} a &= 1.03^4 \\ &= 1.125509 \end{aligned}$$

Compound interest. The compound interest on an investment is the excess of the amount over the investment. Using the symbol a to represent the amount to which 1 will accumulate with interest compounded periodically, and the symbol I to represent the compound interest on 1,

$$I = a - 1$$

Thus, the compound interest on 1 for 4 periods at 3% is 1.125509 − 1, or .125509.

Use of the table—amount of an investment. If one wishes to know the amount to which $1,000 will accumulate

In 4 years at 3% per year compounded annually, or
In 2 years at 6% per year compounded semiannually,

he can look in the table on page 212 in the 3% column on the 4-period line, where he will find that the amount of 1 at 3% for 4 periods is 1.125509. He can then multiply $1,000 by 1.125509, to obtain $1,125.51.

This is obviously a much shorter procedure than to work out the accumulation, period by period, thus:

Investment	$1,000.00
Interest—first period (3% of $1,000.00)	30.00
Amount at end of first period	$1,030.00
Interest—second period (3% of $1,030.00)	30.90
Amount at end of second period	$1,060.90
Interest—third period (3% of $1,060.90)	31.83
Amount at end of third period	$1,092.73
Interest—fourth period (3% of $1,092.73)	32.78
Amount at end of fourth period	$1,125.51

Use of the table—compound interest on an investment. If one wishes to know the compound interest which will be earned on an investment of $1,000 for 4 periods at 3%, the computation can be made as follows:

Investment	$ 1,000
Multiply by compound interest on 1 for 4 periods at 3% − (1.125509 − 1)	.125509
Compound interest	$125.51

Present Value of a Sum Due in the Future. Compound Discount

Table of present value of 1. The following table shows the present value of 1 ($1, £1, or other monetary unit) due at the end of stated numbers of periods, discounted at various interest rates.

Present Value of 1

Periods	3%	3½%	4%	4½%	5%
1	.970874	.966184	.961538	.956938	.952381
2	.942596	.933511	.924556	.915730	.907029
3	.915142	.901943	.888996	.876297	.863838
4	.888487	.871442	.854804	.838561	.822702
5	.862609	.841973	.821927	.802451	.783526
6	.837484	.813501	.790315	.767896	.746215
7	.813092	.785991	.759918	.734828	.710681
8	.789409	.759412	.730690	.703185	.676839

A more comprehensive table appears in an appendix.

Construction of the table. A table of present values of 1 can be compiled in three different ways, as illustrated on the following page, using the 3% rate.

First method.

	1.00	
Divide by	1.03	
	.970874	Present value of 1 for 1 period
Divide by	1.03	
	.942596	Present value of 1 for 2 periods
Divide by	1.03	
	.915142	Present value of 1 for 3 periods
Divide by	1.03	
	.888487	Present value of 1 for 4 periods
And so on.		

Second method.

	1.00	
Divide by	1.03	
	.970874	Present value of 1 for 1 period
Multiply by	.970874	
	.942596	Present value of 1 for 2 periods
Multiply by	.970874	
	.915142	Present value of 1 for 3 periods
Multiply by	.970874	
	.888487	Present value of 1 for 4 periods
And so on.		

Third method. If a table of amounts of 1 is available, a table of present values of 1 can be computed by applying the following formula, in which the present value of 1 is represented by p:

$$p = 1 \div a$$

The procedure is illustrated below:

Periods		Amount of 1 at 3%		Present Value of 1 at 3%
1	1 ÷	1.03	=	.970874
2	1 ÷	1.0609	=	.942596
3	1 ÷	1.092727	=	.915142
4	1 ÷	1.125509	=	.888487
And so on.				

Compound discount. The compound discount on 1 is the excess of 1 over the present value of 1. Using the symbol p to represent the present value of 1 and the symbol D to represent the compound discount on 1,

$$D = 1 - p$$

Thus, the compound discount on 1 for 4 periods at 3% is 1 − .888487, or .111513.

Use of the table—present value of a future sum. What investment, at 3% per period, will accumulate to $1,000 at the end of 4 periods?

Future sum	$ 1,000
Multiply by present value of 1 at 3%, due 4 periods hence	.888487
Present value, or required investment	$888.49

The computation can be proved thus:

Investment	$ 888.49
Interest—first period (3% of $888.49)	26.65
Total at end of first period	$ 915.14
Interest—second period (3% of $915.14)	27.45
Total at end of second period	$ 942.59
Interest—third period (3% of $942.59)	28.28
Total at end of third period	$ 970.87
Interest—fourth period (3% of $970.87)	29.13
Total at end of fourth period	$1,000.00

Use of the table—compound discount. What is the compound discount on $1,000 due 4 periods hence, if the rate is 3%?

Future sum	$ 1,000
Multiply by compound discount on 1 for 4 periods at 3% (1 − .888487)	.111513
Compound discount	$111.51

Ordinary Annuities

Annuity. An annuity is a series of equal payments (called *rents*) made at equal intervals, such as a year, a half-year, a quarter, or a month. The interval may be of any length, but all intervals between rents must be equal and the rents must be equal; otherwise, the series of payments is not properly called an annuity.

Ordinary annuity. Each rent of an *ordinary annuity* is payable at the *end* of a period.

Amount of an ordinary annuity. The amount of an annuity is the sum of the rents and compound interest thereon. Since, in an ordinary annuity, each rent is payable at the end of a period, the last rent is payable at the end of the last period and no interest is earned thereafter.

Assume that a man deposited $1,000 in a fund on December 31 of each of the years 1956, 1957, 1958, and 1959, and that interest was earned on the fund at the rate of 3% per year, compounded annually. The amount of the annuity on December 31, 1959 could be computed by setting up a table of accumulation, as follows:

First rent—deposited December 31, 1956	$1,000.00
Interest earned in 1957—3% of $1,000.00	30.00
Second rent—deposited December 31, 1957	1,000.00
Amount of the annuity on December 31, 1957	$2,030.00
Interest earned in 1958—3% of $2,030.00	60.90
Third rent—deposited December 31, 1958	1,000.00
Amount of the annuity on December 31, 1958	$3,090.90
Interest earned in 1959—3% of $3,090.90	92.73
Fourth rent—deposited December 31, 1959	1,000.00
Amount of the annuity on December 31, 1959	$4,183.63

Table of amount of annuity of 1. The following table shows amounts of ordinary annuities of 1; each amount shown is the sum of the rents and compound interest to the date of the last rent.

Amount of Annuity of 1

Rents	3%	3½%	4%	4½%	5%
1	1.000000	1.000000	1.000000	1.000000	1.000000
2	2.030000	2.035000	2.040000	2.045000	2.050000
3	3.090900	3.106225	3.121600	3.137025	3.152500
4	4.183627	4.214943	4.246464	4.278191	4.310125
5	5.309136	5.362466	5.416323	5.470710	5.525631
6	6.468410	6.550152	6.632975	6.716892	6.801913
7	7.662462	7.779408	7.898294	8.019152	8.142008
8	8.892336	9.051687	9.214226	9.380014	9.549109

A more comprehensive table appears in an appendix.

Use of the table—ordinary annuity. The amounts shown in tables are amounts of ordinary annuities.

Tables of amounts of annuities are used in two types of computations:

Given the rents, to compute the amount of the annuity.
Given the amount of the annuity, to compute the rents.

These two types of problems are illustrated below.

Known rents—compute the amount. A man invested $400 in a fund on September 30 of each of the four years, 1957 to 1960. What amount was accumulated on September 30, 1960 if 5% interest, compounded annually, was earned on the fund?

Since no interest was earned after the date of the last deposit, this is an ordinary annuity.

Rent	$ 400
Multiply by amount of ordinary annuity of 4 rents of 1 at 5%—per table	4.310125
Amount of annuity of 4 rents of $400 each	$1,724.05

The accumulation of this annuity may be tabulated as follows:

Table of Accumulation of Annuity (First Form)

Sept. 30, 1957	Deposit	$ 400.00
Sept. 30, 1958	Interest—5% of $400.00	20.00
	Deposit	400.00
	Total	$ 820.00
Sept. 30, 1959	Interest—5% of $820.00	41.00
	Deposit	400.00
	Total	$1,261.00
Sept. 30, 1960	Interest—5% of $1,261.00	63.05
	Deposit	400.00
	Total	$1,724.05

The accumulation may also be tabulated in a manner shown on page 217.

Table of Accumulation of Annuity (Second Form)

Date	Deposit	Interest	Total
Sept. 30, 1957	$ 400.00		$ 400.00
Sept. 30, 1958	400.00	$ 20.00	820.00
Sept. 30, 1959	400.00	41.00	1,261.00
Sept. 30, 1960	400.00	63.05	1,724.05
Totals	$1,600.00	$124.05	

Known amount—compute the rents. What contributions must be made at the end of each of 8 years to produce a fund of $25,000 by the end of the eighth year, if the fund earns 5% interest, compounded annually?

Since no interest accumulates after the date of the last deposit, this is an ordinary annuity.

Desired fund	$ 25,000
Divide by amount of ordinary annuity of 8 rents of 1 at 5%—per table (or fund which would be created by contributions of $1)	9.549109
Required contributions	$2,618.05

The accumulation of the fund may be shown in a table in either of the forms shown above. The second form is used below.

Table of Fund Accumulation

End of Year	Contribution	Interest	Total Fund
1	$ 2,618.05		$ 2,618.05
2	2,618.05	$ 130.90	5,367.00
3	2,618.05	268.35	8,253.40
4	2,618.05	412.67	11,284.12
5	2,618.05	564.21	14,466.38
6	2,618.05	723.32	17,807.75
7	2,618.05	890.39	21,316.19
8	2,618.05	1,065.81	25,000.05
Totals	$20,944.40	$4,055.65	

Slight overages or shortages frequently occur in such computations because of the necessity of approximating interest and other computations to the nearest cent.

Present value of an ordinary annuity. The present value of an annuity is a sum which, invested at compound interest, will provide for the withdrawal of a stated number of rents at equal intervals. The interest earned increases the balance of the investment, and the rent withdrawals reduce it. The withdrawal of the last rent should exhaust the investment.

In an ordinary annuity, each rent is withdrawn at the *end* of a period, and the present value of the annuity (the sum invested) is computed as of the beginning of the first period (which is one period prior to the date of the first withdrawal).

An investment of $3,717.10 on January 1, 1958 at 3% compounded annually will provide for the withdrawal of $1,000 on

December 31 of each of the years 1958, 1959, 1960, and 1961. Therefore, \$3,717.10 is the present value, at 3%, of an ordinary annuity of four rents of \$1,000. This can be proved by setting up a table of reduction:

1958:	
January 1—investment	\$3,717.10
Add interest—3% of \$3,717.10	111.51
Total	\$3,828.61
Deduct rent—December 31	1,000.00
Balance, December 31	\$2,828.61
1959:	
Add interest—3% of \$2,828.61	84.86
Total	\$2,913.47
Deduct rent—December 31	1,000.00
Balance, December 31	\$1,913.47
1960:	
Add interest—3% of \$1,913.47	57.40
Total	\$1,970.87
Deduct rent—December 31	1,000.00
Balance, December 31	\$ 970.87
1961:	
Add interest—3% of \$970.87	29.13
Total	\$1,000.00
Deduct rent—December 31	1,000.00
Balance, December 31	—

Table of present value of annuity of 1. The following table shows present values of ordinary annuities of 1:

Present Value of Annuity of 1

Rents	3%	3½%	4%	4½%	5%
1	.970874	.966184	.961538	.956938	.952381
2	1.913470	1.899694	1.886095	1.872668	1.859410
3	2.828611	2.801637	2.775091	2.748964	2.723248
4	3.717098	3.673079	3.629895	3.587526	3.545951
5	4.579707	4.515052	4.451822	4.389977	4.329477
6	5.417191	5.328553	5.242137	5.157872	5.075692
7	6.230283	6.114544	6.002055	5.892701	5.786373
8	7.019692	6.873956	6.732745	6.595886	6.463213

A more comprehensive table appears in an appendix.

Use of the table—ordinary annuity. Tables of present values of annuities are used in two types of computations:

Given the rents, to compute the present value of the annuity.
Given the present value of the annuity, to compute the rents.

These two types of problems are illustrated below.

Known rents—compute the present value. What sum must be invested on January 1, 1958, at 5% interest compounded annually, to provide for 4 withdrawals of \$100, one each on December 31, 1958, 1959, 1960, and 1961?

One period's interest is earned between the date of the investment and the date of the first rent; therefore, this is an ordinary annuity.

Rent	$ 100
Multiply by present value of ordinary annuity of 4 rents of 1 at 5%—per table	3.545951
Present value of annuity of 4 rents of $100	$ 354.60

Two methods of tabulating the reduction of an ordinary annuity are illustrated below:

Table of Reduction of Annuity (First Form)

Jan. 1, 1958	Investment	$354.60
Dec. 31, 1958	Interest—5% of $354.60	17.73
	Total	$372.33
	Rent withdrawn	100.00
	Balance	$272.33
Dec. 31, 1959	Interest—5% of $272.33	13.62
	Total	$285.95
	Rent withdrawn	100.00
	Balance	$185.95
Dec. 31, 1960	Interest—5% of $185.95	9.30
	Total	$195.25
	Rent withdrawn	100.00
	Balance	$ 95.25
Dec. 31, 1961	Interest—5% of $95.25	4.76
	Total	$100.01
	Rent withdrawn	100.01

The discrepancy of one cent is caused by repeated approximations in which five mills or more are called one cent.

Table of Reduction of Annuity (Second Form)

Date	Interest Added	Rent Withdrawn	Balance of Investment
Jan. 1, 1958			$354.60
Dec. 31, 1958	$17.73	$100.00	272.33
Dec. 31, 1959	13.62	100.00	185.95
Dec. 31, 1960	9.30	100.00	95.25
Dec. 31, 1961	4.76	100.01	
Totals	$45.41	$400.01	

Known present value—compute the rents. The present value, at 5%, of five rents of unknown amount, the first of which is payable one period hence, is $5,000. Determine the rents.

The present value table on page 218 shows that 4.329477 is the present value, at 5%, of an ordinary annuity of five rents of 1; in other words, $1 rents will be produced by a present value of $4.329477. Then,

$5,000 ÷ 4.329477 = $1,154.87, the rents produced by a present value of $5,000.

Problems of this nature arise in cases similar to the following.

(1) A man invests \$5,000 in a fund that earns 5% interest, compounded annually. He desires to withdraw five equal annual sums, beginning one year after he makes the deposit. What annual sums can be withdrawn? The foregoing solution indicates that \$1,154.87 can be withdrawn at the end of each of the five years.

(2) A man owes a debt of \$5,000, bearing 5% interest payable annually. He desires to pay the debt and interest in five equal annual installments, beginning one year hence. What equal annual installments will pay the debt and interest? The principal of the debt is the present value of an ordinary annuity; the annual payments are the rents. Therefore, the equal annual installments that will pay the principal and interest are \$1,154.87, computed as above. Assuming that this debt was incurred on January 1, 1958, its reduction may be tabulated as follows:

Reduction of Indebtedness by Equal Installments in Payment of Principal and Interest

Date	Payment — Total	Payment — Interest	Payment — Principal	Unpaid Principal
Jan. 1, 1958				\$5,000.00
Dec. 31, 1958	\$1,154.87	\$250.00	\$ 904.87	4,095.13
Dec. 31, 1959	1,154.87	204.76	950.11	3,145.02
Dec. 31, 1960	1,154.87	157.25	997.62	2,147.40
Dec. 31, 1961	1,154.87	107.37	1,047.50	1,099.90
Dec. 31, 1962	1,154.87	55.00	1,099.87	.03
Totals	\$5,774.35	\$774.38	\$4,999.97	

Annuities Due

Annuity due. Each rent of an *annuity due* is payable at the *beginning* of a period.

Amount of an annuity due. The difference between the amount of an ordinary annuity and an annuity due, of the same number of rents, is shown by the tabulation on page 221. Each annuity consists of four annual rents, with interest at 5%.

Use of the table. The table of amounts of ordinary annuities on page 216 can be used for the computation of amounts of annuities due. Refer to the tabulation on page 221 and observe:

Amount of an ordinary annuity of 4 rents of \$1,000—(Amount accumulated at the end of 1961)	\$4,310.13
Amount of an annuity due of 3 rents of \$1,000—(Amount accumulated at the end of 1960)	3,310.13
Difference	\$1,000.00

	Ordinary Annuity	Annuity Due
1958:		
Rent deposited, beginning of year		$1,000.00
Interest—5% of $1,000.00		50.00
Rent deposited, end of year	$1,000.00	
Amount, end of year	$1,000.00	$1,050.00
1959:		
Rent deposited, beginning of year		1,000.00
Total		$2,050.00
Interest:		
5% of $1,000.00	50.00	
5% of $2,050.00		102.50
Rent deposited, end of year	1,000.00	
Amount, end of year	$2,050.00	$2,152.50
1960:		
Rent deposited, beginning of year		1,000.00
Total		$3,152.50
Interest:		
5% of $2,050.00	102.50	
5% of $3,152.50		157.63
Rent deposited, end of year	1,000.00	
Amount, end of year	$3,152.50	$3,310.13
1961:		
Rent deposited, beginning of year		1,000.00
Total		$4,310.13
Interest:		
5% of $3,152.50	157.63	
5% of $4,310.13		215.50
Rent deposited, end of year	1,000.00	
Amount, end of year	$4,310.13	$4,525.63

The difference shown on page 220 is one rent. Therefore, if a computation requires the use of the amount of an annuity due of 3 rents, we can use the amount of an ordinary annuity of 4 rents, shown by the table, and subtract one rent. Stated in general terms:

> To determine, from the table, the amount of an annuity due of n rents of $1, find the amount of an ordinary annuity of $n + 1$ rents, and subtract $1.

For example, what is the amount of an annuity due of 3 rents of 1 at 5%?

Amount of ordinary annuity of 4 rents—per table	4.310125
Deduct	1.000000
Amount of annuity due of 3 rents	3.310125

The two types of problems illustrated in the discussion of ordinary annuities are illustrated below, using amounts of annuities due.

Known rents—compute the amount. To provide for his son's education, a man deposited $500 in a fund on the day the son was

born and on each birthday thereafter to and including the sixteenth. If the fund earned 4% interest compounded annually, what amount was accumulated on the son's seventeenth birthday?

The last deposit was made on the son's sixteenth birthday; the fund earned interest for one year after the date of the last deposit; therefore, this is an annuity due. (Or the reasoning could be: the last deposit was made at the beginning of the last period; therefore, each deposit was made at the beginning of a period; therefore, this is an annuity due.) One deposit was made on the day of birth, and one on each of 16 anniversaries thereof: a total of 17 rents.

The computation of the amount of the annuity is shown below.

Rent		$ 500.00
Multiply by amount of annuity due of 1:		
Amount of ordinary annuity of 18 rents of 1 at 4%—per table in appendix	25.64541288	
Deduct	1.00000000	
Amount of annuity due of 17 rents		24.64541288
Amount accumulated		$ 12,322.71

Known amount—compute the rents. To provide for his old age, a man desires to accumulate a fund which will amount to $100,000 on his 60th birthday. He wishes to accumulate this fund by equal deposits on his birthdays—from the 35th to the 59th, both inclusive, or a total of 25 deposits. On the assumption that the fund will earn 3% interest, compounded annually, what annual deposit should he make?

The last deposit is to be made on the 59th birthday; interest is to be earned until the 60th birthday; hence, this is an annuity due.

Amount of ordinary annuity of 26 rents of 1 at 3%—per table	38.55304225
Deduct	1.00000000
Amount of annuity due of 25 rents	37.55304225

Then, $100,000 ÷ 37.55304225 = $2,662.90 annual deposit.

Present value of an annuity due. A table of present values of ordinary annuities (see page 218) can be used in making computations involving present values of annuities due. The present value, at 5%, of an annuity due of 8 rents consists of:

1 rent due immediately, the present value of which is	1.000000
The present value of 7 future rents, or the present value of an ordinary annuity of 7 rents, shown by the table to be	5.786373
Present value of an annuity due of 8 rents	6.786373

> To determine, from the table, the present value of an annuity due of n rents of $1, find the present value of an ordinary annuity of $n - 1$ rents, and add $1.

Known rents—compute the present value. A, the owner of certain real estate, agrees to lease it to B for five years, beginning

January 1, 1958, at an annual rental of $1,000, payable January 1 of each year. *B* accepts the offer and asks *A* if he is willing to accept (instead of five annual rents) an immediate lump sum equal to the present value of the five rents, discounted at 5%. What is the present value of the five rents? Since each rent is payable at the beginning of a period, this is an annuity due, of 5 rents. The present value is computed as follows:

Annual rents		$1,000.00
Multiply by present value of annuity due of 5 rents of 1:		
First rent—not subject to discount	1.000000	
Present value, at 5%, of an ordinary annuity of 4 future rents—per table	3.545951	
Present value of an annuity due of 5 rents of 1		4.545951
Present value of annuity due of 5 rents of $1,000		$4,545.95

Table of Reduction of Annuity (First Form)

Jan. 1, 1958	Total present value	$4,545.95
	First rent	1,000.00
	Balance	$3,545.95
Jan. 1, 1959	Interest—5% of $3,545.95	177.30
	Total	$3,723.25
	Second rent	1,000.00
	Balance	$2,723.25
Jan. 1, 1960	Interest—5% of $2,723.25	136.16
	Total	$2,859.41
	Third rent	1,000.00
	Balance	$1,859.41
Jan. 1, 1961	Interest—5% of $1,859.41	92.97
	Total	$1,952.38
	Fourth rent	1,000.00
	Balance	$ 952.38
Jan. 1, 1962	Interest—5% of $952.38	47.62
	Total	$1,000.00
	Fifth rent	1,000.00

The reduction of the annuity may also be tabulated as follows:

Table of Reduction of Annuity (Second Form)

Date	Interest	Rent	Balance
Jan. 1, 1958			$4,545.95
Jan. 1, 1958		$1,000.00	3,545.95
Jan. 1, 1959	$177.30	1,000.00	2,723.25
Jan. 1, 1960	136.16	1,000.00	1,859.41
Jan. 1, 1961	92.97	1,000.00	952.38
Jan. 1, 1962	47.62	1,000.00	
Totals	$454.05	$5,000.00	

Known present value—compute the rents. On January 1, 1958, *B* offers to buy *A*'s summer home for $5,000, payable in 5 equal installments, which are to include 5% interest on the unpaid balance and a portion of the principal, the first of such payments to be made immediately. How much will each payment be?

The $5,000 principal sum is the present value of an annuity due of 5 unknown rents.

Present value of an ordinary annuity of 4 rents of 1—per table. .	3.545951
Add.	1.000000
Present value of an annuity due of 5 rents of 1.	4.545951

Then $5,000 ÷ 4.545951 = $1,099.88, the annual payment.

Reduction of Indebtedness by Equal Installments
in Payment of Principal and Interest

Date	Payment Total	Payment Interest	Payment Principal	Unpaid Principal
Jan. 1, 1958.				$5,000.00
Jan. 1, 1958.	$1,099.88		$1,099.88	3,900.12
Jan. 1, 1959.	1,099.88	$195.01	904.87	2,995.25
Jan. 1, 1960.	1,099.88	149.76	950.12	2,045.13
Jan. 1, 1961.	1,099.88	102.26	997.62	1,047.51
Jan. 1, 1962.	1,099.88	52.38	1,047.50	.01
Totals.	$5,499.40	$499.41	$4,999.99	

Deferred Annuities

Present value of a deferred annuity. A deferred annuity is one that does not begin to produce rents until after the expiration of a number of periods. For instance, "an annuity of five annual rents deferred three years" means that no rents will be paid during the first three years, and that the first of the five rents will be payable at the end of the fourth year.

Known rents—compute the present value. On January 1, 1958, Brown purchases an annuity of five rents of $1,000 each, the first rent to be payable January 1, 1962. Although Brown does not receive his first rent until the expiration of four periods, it should be remembered that the first rent of an ordinary annuity is not payable until the expiration of one period; therefore, this annuity is deferred only three periods. What is the present value of the five rents, deferred three periods, interest computed at the rate of 4% per annum?

If rents were to be payable at the end of each of the first 3 years as well as at the end of each of the last 5 years, the annuity would be an ordinary annuity of 8 rents. The present value of an ordinary annuity of 8 rents of 1, on a 4% basis (see table, page 218), is.	6.732745
As Brown does not acquire the right to receive rents at the end of each of the first 3 periods, he should not pay for these 3 rents. Therefore, we shall deduct the present value of an ordinary annuity of 3 rents (see table).	2.775091
The remainder is the present value of the 5 rents, which are deferred 3 periods.	3.957654

Then $1,000 (annual rents) × 3.957654 = $3,957.65, present value of 5 rents of $1,000 deferred 3 periods.

Representing the number of rents by n and the number of deferred periods by m, the method of computing the present value of a deferred annuity (as illustrated above) may be stated as follows:

$$n = 5$$
$$m = 3$$

Present value of an ordinary annuity of 8 $(m + n)$ rents	6.732745
Deduct present value of an ordinary annuity of 3 (m) rents	2.775091
Present value of 5 (n) rents deferred 3 (m) periods	3.957654

The reduction of this deferred annuity may be tabulated as follows:

Table of Reduction of Deferred Annuity

Date	Interest	Rent	Balance
Jan. 1, 1958			$3,957.65
Jan. 1, 1959	$ 158.31		4,115.96
Jan. 1, 1960	164.64		4,280.60
Jan. 1, 1961	171.22		4,451.82
Jan. 1, 1962	178.07	$1,000.00	3,629.89
Jan. 1, 1963	145.20	1,000.00	2,775.09
Jan. 1, 1964	111.00	1,000.00	1,886.09
Jan. 1, 1965	75.44	1,000.00	961.53
Jan. 1, 1966	38.47	1,000.00	
Totals	$1,042.35	$5,000.00	

The present value of a deferred annuity can also be computed as follows: Multiply the present value of an ordinary annuity of n rents by the present value of 1 due in m periods; thus:

Present value of ordinary annuity of 5 rents of 1 at 4% (per table, page 218)	4.451822
Multiply by present value, at 4%, of 1 due at the end of 3 periods (per table, page 213)	.888996
Present value of 5 rents of 1, deferred 3 periods	3.957654

Known present value—compute the rents. On January 1, 1958, A invests $50,000 in an annuity at 4% compounded annually. The first rent of the annuity is payable to him on January 1, 1962, or 4 years after the annuity is purchased. A is buying an annuity of 5 rents deferred 3 periods. The present value at 4% of an annuity of 5 rents of 1 deferred 3 periods was computed above; it is 3.957654. Then the annual rents which A will receive are:

$$\$50{,}000 \div 3.957654 = \$12{,}633.75$$

Working With Limited Tables

Amount of 1. The table in the appendix shows amounts of 1 for each period from 1 to 50. Suppose we must know the amount of 1 at 3% for 55 periods, or 1.03^{55}.

A power of a number can be computed by multiplying together two or more other powers of that number, the sum of whose exponents is equal to the exponent of the power desired. Thus, by using amounts shown by the table, we can compute 1.03^{55} as follows:

	1.03^{50}	$= 4.38390602$
Multiply by	1.03^{5}	$= 1.15927407$
Equals	1.03^{55}	$= 5.08214857$

Present value of 1. The table in the appendix shows present values of 1 for each period from 1 to 50. Suppose we must know the present value of 1 at 3% for 55 periods. A procedure similar to the one described above may be used.

Present value of 1 at 3% for 50 periods	.22810708
Multiply by present value of 1 at 3% for 5 periods	.86260878
Present value of 1 at 3% for 55 periods	.19676717

Annuities. When working with limited tables, the following methods may be used:

Amount of an annuity. If the amount of an annuity for the required n periods is not shown by the table, it can be computed by applying the formula $A = I \div i$, in which A is the amount of an annuity of 1 for the desired number of periods, I is the compound interest, and i is the rate per period.

If a table of Amounts of 1 is available, showing the amount for the desired number of periods, I can be computed by the formula $I = a - 1$.

If a table of Amounts of 1 is available but it does not extend to the desired number of periods, the amount of 1 for n periods may be computed by the procedure described above under the caption "Amount of 1."

If no table of Amounts of 1 is available, the amount of 1 for the required number of periods can be computed by repeated multiplications as shown on page 212, shortening the work by application of procedures shown above.

Present value of an annuity. If the present value of an annuity for the required n periods is not shown by the table, it can be computed by applying the formula $P = D \div i$, in which P is the present value of an annuity of 1 for the desired number of periods, D is the compound discount, and i is the rate.

If a table of Present Values of 1 is available, showing the present value for the desired number of periods, D can be computed by the formula $D = 1 - p$.

If a table of Present Values of 1 is available but it does not extend to the desired number of periods, the present value

of 1 for n periods may be computed by the procedure described on page 226 under the caption "Present value of 1."

If no table of Present Values of 1 is available, the present value of 1 for the required number of periods may be computed by either of the methods described on page 214. A short cut is available. For instance, if the present value of 1 for 16 periods is desired,

Compute the present value of 1 for 1 period by either of the first two methods described on page 214. This value can be represented by the symbol v^1. Then,

$v^1 \times v^1 = v^2$
$v^2 \times v^2 = v^4$
$v^4 \times v^4 = v^8$
$v^8 \times v^8 = v^{16}$, the present value for 16 periods.

Symbols

Many different symbols are used to express amounts and present values of 1 or of annuities of 1. The four symbols used in this book for these values are shown below; the illustrative values are based on eight periods and a 5% rate.

$$a = 1.47745544$$
$$p = .67683936$$
$$A = 9.54910888$$
$$P = 6.46321276$$

The use of any other symbols need not be confusing. For example, if a problem states that

$$v^6 \text{ at } 5\% = .7462$$

it is obvious that the value given is a present value, since it is less than 1; clearly, it is the present value of 1 at 5% due six periods hence.

Or if the problem states that, at 4%, $s^7 = 1.31593178$, it is apparent that the value given is an amount, since it is more than 1; clearly, it cannot be the amount of an annuity of seven rents of 1, since that amount would exceed seven. It is the amount of 1 for seven periods.

If a problem states that $s_{\overline{8|}}$ (read as "s lower index 8") at 3% is 8.89233605, the value (being in excess of eight) is obviously the amount of an annuity of eight rents of 1.

Or if the problem states that, at 4½%, $a_{\overline{6|}}$ is 5.15787248, the value (being somewhat less than six) is apparently the present value of an annuity of six rents of 1.

SECTION 2

Complications in Problems

Problems in compound interest and annuities sometimes require careful analysis to determine what tables and procedures to use. Some illustrations of complicating conditions are presented below:

Case 1. To what amount will an investment of $1,000 accumulate in 20 years if it earns 5%, compounded annually, for 8 years, 4% for the next 7 years, and 3% for the last 5 years?

Amount of 1 at 5% for 8 periods	1.47745544
Multiply by amount of 1 at 4% for 7 periods	1.31593178
Amount of 1 at end of 15 periods	1.94423057
Multiply by amount of 1 at 3% for 5 periods	1.15927407
Amount of 1 at end of 20 periods	2.25389609
Amount of $1,000	$2,253.90

Case 2. Compute the amount of an annuity of 15 rents of 1 if interest rates are:

Between dates of 1st and 5th rents—5%
Between dates of 5th and 10th rents—4%
Between dates of 10th and 15th rents—3%

Amount of an ordinary annuity of 5 rents of 1 at 5%	5.52563125
Multiply by amount of 1 at 4% for 5 periods	1.21665290
Amount of first 5 rents at end of 10th year	6.72277528
Add amount of an ordinary annuity of 5 rents of 1 at 4%	5.41632256
Amount of first 10 rents at end of 10th year	12.13909784
Multiply by amount of 1 at 3% for 5 periods	1.15927407
Amount of first 10 rents at end of 15th year	14.07254136
Add amount of an ordinary annuity of 5 rents of 1 at 3%	5.30913581
Amount of annuity of 1 at end of 15 years	19.38167717

Case 3. What is the present value, on January 1, 1959, of an annuity of 15 rents of 1, payable on December 31 of the years 1959 to 1973, inclusive, if interest rates are as stated below?

1959–1963	5%
1964–1968	4
1969–1973	3

Present value, on January 1, 1969, of last 5 rents—present value of ordinary annuity of 5 rents of 1 at 3%	4.57970719
Multiply by present value of 1 at 4% for 5 periods	.82192711
Present value, on January 1, 1964, of last 5 rents	3.76418550
Add present value of ordinary annuity of 5 rents of 1 at 4%	4.45182233
Present value, on January 1, 1964, of last 10 rents	8.21600783
Multiply by present value of 1 at 5% for 5 periods	.78352617
Present value, on January 1, 1959, of last 10 rents	6.43745715
Add present value of ordinary annuity of 5 rents of 1 at 5%	4.32947667
Present value, on January 1, 1959, of the 15 rents	10.76693382

Case 4. A man makes a series of unequal payments into a fund, which earns interest at increasing rates, compounded annually, all as indicated below:

Deposits		Interest Rates	
December 31, 1959–1963.....	$1,000	1959–1963	3%
December 31, 1964–1968.....	1,200	1964–1968	4
December 31, 1969–1973.....	1,500	1969–1973	5

What amount will be in the fund on December 31, 1973?

	First Series	Second Series	Third Series
Years 1959–1963:			
Amount of ordinary annuity of 5 rents of 1 at 3%.............	5.30913581		
Years 1964–1968:			
Multiply by amount of 1 at 4% for 5 periods.....................	1.21665290		
Amount of ordinary annuity of 5 rents of 1 at 4%...............		5.41632256	
Amounts, December 31, 1968, per dollar of deposit...............	6.45937548	5.41632256	
Years 1969–1973:			
Multiply by amount of 1 at 5% for 5 periods.....................	1.27628156	1.27628156	
Amount of ordinary annuity of 5 rents of 1 at 5%...............			5.52563125
Amounts, December 31, 1973, per dollar of deposit...............	8.24398181	6.91275261	5.52563125
Deposits.........................	$1,000.00	$1,200.00	$1,500.00
Amounts, December 31, 1973........	$8,243.98	$8,295.30	$8,288.45

Summary:	
First series............	$ 8,243.98
Second series..........	8,295.30
Third series...........	8,288.45
Total.............	$24,827.73

Case 5. *A* wants to create a fund, on a 3% basis, which will enable him to withdraw $2,500 per year on June 30, 1980 and each year thereafter to and including June 30, 2000. To provide this fund, he intends to make equal contributions on June 30th of each of the years 1960 to 1979. What contributions must he make?

The amount which will be in the fund on June 30, 1979 is the amount of an ordinary annuity of 20 rents (contributions) at 3%. If we knew this amount, we could divide it by the amount of an ordinary annuity of 20 rents of 1 at 3% to determine the contributions. The problem does not state the amount, but we can determine it because we know that it must be the present value of an ordinary annuity of the 21 annual rents to be withdrawn, starting June 30, 1980. Therefore, the problem can be solved by the procedure shown on the following page.

Rents to be withdrawn	$ 2,500
Multiply by present value of an ordinary annuity of 21 rents of 1 at 3%	15.41502414
Present value of annuity of 21 rents of $2,500, or amount to be in the fund on June 30, 1979	$38,537.56
Divide by amount of an ordinary annuity of 20 rents of 1 at 3%	26.87037449
Annual contributions	$ 1,434.20

Case 6. Assume the same facts as before except that only 15 contributions are to be made (the last on June 30, 1974); 21 withdrawals are to be made, as before, starting on June 30, 1980.

Because of the waiting period, the amount in the fund on June 30, 1974 is the present value of an annuity of 21 rents deferred 5 periods. (Although there are 6 years between June 30, 1974 and June 30, 1980, there is one period of waiting in an ordinary annuity.) Then the solution proceeds as follows:

Present value of an ordinary annuity of 26 rents of 1 at 3%	17.87684242
Deduct present value of an ordinary annuity of 5 rents of 1 at 3%	4.57970719
Present value of an annuity of 21 rents of 1 deferred 5 periods	13.29713523
Multiply by rent to be withdrawn	$ 2,500
Amount which should be in the fund on June 30, 1974	$33,242.84
Divide by amount of an ordinary annuity of 15 rents of 1	18.59891389
Annual contributions	$ 1,787.35

Case 7. A bond issue of $500,000, dated January 1, 1960, is to be paid in 5 equal annual installments, beginning December 31, 1971. To provide for these payments, the issuing company will create a fund by making 15 annual contributions of equal amount on December 31, 1961 to 1975, inclusive. The fund will be on a 4% basis. What annual contribution should be made?

To determine the contributions, we must divide some actual, or theoretical, accumulated fund amount by the amount of an annuity of 1 at 4% for the number of periods from December 31, 1960 to the date as of which the actual or theoretical fund amount would be accumulated.

The amount that will be in the fund on December 31, 1971 cannot be computed until the unknown contributions are determined; and the amount in the fund on December 31, 1975 will be zero.

However, we do know that, if the equal installments of $100,000 to be withdrawn on December 31 of the years 1971 to 1975 were immediately reinvested at 4%, they would amount, on December 31, 1975 to $100,000 × 5.41632256 (amount of ordinary annuity of 5 rents of 1 at 4%) or $541,632.26.

Then $541,632.26 is the amount to which the sinking fund would accumulate on December 31, 1975 if no withdrawals were made from it.

And \$541,632.26 ÷ 20.02358764 (amount of ordinary annuity of 15 rents of 1 at 4%) = \$27,049.71, the annual contribution.

Case 3. A man invests \$1,000 in a fund on December 31 of each of the years 1960 to 1969, inclusive. The fund earns 5% per year, compounded semiannually. How much will be in the fund on December 31, 1969?

The effective interest rate per year (the period between deposits) is $1.025^2 - 1$, or $1.050625 - 1$, or 5.0625%. We have no table at this rate. But we can compute the amount of an annuity of 10 rents of 1 at 5.0625% by applying the formula $A = I \div i$.

The amount of 1 for 10 periods at 5.0625% per period is the same as the amount of 1 for 20 periods at 2½% per period. This is shown by the 2½% table to be 1.63861644. Then

$$A = .63861644 \div .050625 = 12.61464572,$$

and the accumulated amount in the fund is

$$\$1{,}000 \times 12.61464572 = \$12{,}614.65$$

CHAPTER THIRTEEN

Compound Interest and Annuities—Accounting Applications

Depreciation

In the discussion of depreciation in Chapter 17 of *Principles of Accounting—Intermediate,* the following symbols were used:

C = Cost
S = Scrap or residual value
n = Estimated life periods
D = Depreciation per period

The illustrations in that chapter were based on an asset cost of $6,000, an estimated residual value of $400, and an estimated life of eight years. Using these assumed facts, we shall now consider two depreciation methods which involve compound interest.

Annuity method. This method applies the theory that interest on investment should be included in the cost of production. The charge to operations by this method is therefore offset by two credits: one to an interest earned account (computed at an arbitrary rate on the cost of the asset minus the depreciation already accumulated), and one to the Accumulated Depreciation account. The interest credit is based on the carrying value of the asset, or cost minus the accumulated depreciation, since the carrying value is considered to be the present unrecovered investment in the asset. As the book value of the asset is continually being reduced, the interest credit decreases each period, and hence the credit to the Accumulated Depreciation account increases.

The total charge to operations for interest and depreciation is the same for each period of the life of the asset. This equal periodical charge is computed by the following formula:

$$D = \frac{C - (S \times p)}{P}$$

In the application of this method, an arbitrary interest rate must be adopted. Using 5%, we have:

p (the present value of 1 due 8 periods hence at 5%) = .67683936
P (the present value of an annuity of 8 rents of 1 at 5%) = 6.46321276

$$D = \frac{\$6{,}000 - (\$400 \times .67683936)}{6.46321276}$$
$$= \frac{\$6{,}000 - \$270.74}{6.46321276}$$
$$= \$5{,}729.26 \div 6.46321276$$
$$= \$886.44$$

Depreciation Table—Annuity Method

Year	Debit Depreciation	Credit Interest (5% of Carrying Value)	Credit Accumulated Depreciation	Total Accumulated Depreciation	Carrying Value
					$6,000.00
1	$ 886.44	$ 300.00	$ 586.44	$ 586.44	5,413.56
2	886.44	270.68	615.76	1,202.20	4,797.80
3	886.44	239.89	646.55	1,848.75	4,151.25
4	886.44	207.56	678.88	2,527.63	3,472.37
5	886.44	173.62	712.82	3,240.45	2,759.55
6	886.44	137.98	748.46	3,988.91	2,011.09
7	886.44	100.55	785.89	4,774.80	1,225.20
8	886.44	61.26	825.18	5,599.98	400.02
	$7,091.52	$1,491.54	$5,599.98		

Two objections may be raised to the annuity method. First, it results in the inclusion of theoretical interest in costs and expenses, with an offsetting credit to an income account. Net income will be affected if the inventory valuations at the beginning and end of the period include differing amounts of theoretical interest costs. Second, the interest charge to operations appears in the accounts as depreciation, thus making the total depreciation charge exceed the depreciation base; even if interest were a proper element of cost, the charge should be clearly stated as interest.

The formula for computing the charge by the annuity method is based on the following reasoning. Since interest is computed on the investment, the cost of the asset is the present value of:

(1) The periodical charges to depreciation, which are an annuity.
(2) The scrap value.

Then, if the present value of the scrap is deducted from the cost of the asset, the remainder is the present value of the annuity of depreciation charges. Referring to the figures in the illustration:

Scrap value	$ 400
Multiply by the present value of 1 due 8 periods hence at 5%	.67683936
Present value of scrap	$ 270.74
Cost	$6,000.00
Deduct present value of scrap	270.74
Present value of annuity of depreciation charges	$5,729.26

The present value of an annuity of 8 rents of 1 at 5% is 6.46321276. Then $5,729.26 is the present value of an annuity of 8 rents of $5,729.26 ÷ 6.46321276, or $886.44.

Sinking fund method. This method is based on the assumption that a fund will be established to replace the asset at the expiration of its life. The method may be applied, however, without actually accumulating a fund. It is assumed that the fund will be created by equal cash installments, and the first step in the application of the method is to determine these installments.

The total amount of the required fund is cost minus scrap value, or $C - S$. The contributions to the fund are an annuity. Hence the sinking fund contribution (*S.F.C.*) is computed by dividing the total required fund by the amount of an annuity of 1. Or

$$S.F.C. = \frac{C - S}{A}$$

At 5%, the amount of an annuity of 1 for 8 periods is 9.54910888.

$$\begin{aligned}\text{Then, } S.F.C. &= \frac{\$6{,}000 - \$400}{9.54910888}\\ &= \$5{,}600 \div 9.54910888\\ &= \$586.44\end{aligned}$$

If a fund is established, and if it is accumulated at compound interest at the theoretical rate of 5%, the entries for the fund (not the depreciation entries) will be:

Table of Entries for Sinking or Replacement Fund

Year	Debit Fund	Credit Interest	Credit Cash	Total Fund
1	$ 586.44		$ 586.44	$ 586.44
2	615.76	$ 29.32	586.44	1,202.20
3	646.55	60.11	586.44	1,848.75
4	678.88	92.44	586.44	2,527.63
5	712.82	126.38	586.44	3,240.45
6	748.46	162.02	586.44	3,988.91
7	785.89	199.45	586.44	4,774.80
8	825.18	238.74	586.44	5,599.98
	$5,599.98	$908.46	$4,691.52	

The sinking fund method of providing depreciation may be used without actually accumulating a fund; and if a fund is established, it will probably not accumulate in accordance with the

theoretical table. The depreciation entries, however, are made in accordance with this theoretical table even if a fund is not accumulated, the debits to depreciation and the credits to Accumulated Depreciation being the increasing amounts shown in the "Debit Fund" column of the preceding table.

The sinking fund method is sometimes used by public utilities in order to determine the amount required to provide a fund for the replacement of the assets. Cash provided by operations is put into the fund, and the charges to depreciation are made in accordance with the theoretical accumulation of the fund. Thus, as the investment in, or carrying value of, the fixed assets is diminished, the fund is increased, and the capital is kept intact.

Comparison of annuity and sinking fund methods. These two methods are often confused, and writers sometimes refer to them as the same method under two different names. The methods are alike in only one particular: the credits to Accumulated Depreciation. These are the same in both methods, but otherwise there are no elements of similarity between the two methods. The distinction may be shown by setting up the entries under both methods, using the fifth year as an illustration.

Annuity method.

Depreciation	886.44	
Interest (on carrying value of asset)		173.62
Accumulated depreciation		712.82

Sinking fund method. The depreciation entry, regardless of whether or not a fund is established, and regardless of the interest actually earned on the fund, is:

Depreciation	712.82	
Accumulated depreciation		712.82

The fund entry, if a fund is established and if it actually accumulates at the theoretical interest rate, is:

Sinking or replacement fund	712.82	
Interest (on fund)		126.38
Cash		586.44

Neither of these depreciation methods is of any great practical importance.

Bond Premium and Discount

In *Principles of Accounting—Intermediate*, amortizations of bond premium and discount were made on a straight-line basis. We shall now consider amortization procedures on the effective yield basis.

Premium on bonds owned. Assume that a $1,000 bond, bearing 6% interest payable semiannually on January 1 and July 1, and due in four years, is purchased on January 1, 1960, for $1,035.85. Although the nominal interest is 6%, the effective, or yield, rate at this price is 5%. (At least, that is the way it would be expressed in common parlance. Actually, the yield rate is 2½% each six months, which, from an actuarial point of view, is 5.0625% per year.)

The yield rate is less than the nominal rate for two reasons:

(1) More than $1,000 was invested.
(2) The $35.85 premium will not be recovered at the maturity of the bond; therefore, the net income on the bond is the total interest collected minus the unrecovered premium.

When the effective yield method of amortization is used:

The Interest Earned account is credited with amounts computed by multiplying the reducing balance of the investment account by the effective rate.

The premium amortization each period is the difference between the cash interest collected and the amount credited to Interest Earned.

The schedules on page 237 show how the effective yield amortization method would be applied to the 6% bond bought for $1,035.85 to yield 5%.

It will be noted that the credit to Interest Earned each period is 2½% of the carrying value of the investment at the beginning of that period, and that, whereas the rate of income is always 2½% per period, the credits to Interest Earned diminish because the carrying value of the investment diminishes. The difference between the Cash debit for the coupon and the Interest Earned credit is credited to the Bond Investment account as an amortization of premium; and this amortization takes place in increasing amounts.

Discount on bonds owned. Assume that a $1,000 bond, bearing 6% interest payable semiannually on January 1 and July 1, and due in four years, is purchased on January 1, 1960, for $965.63. Although the nominal interest rate is 6%, the yield rate is 7%. The yield rate is more than the nominal rate for two reasons:

(1) Less than $1,000 was invested.
(2) Since the bond presumably will be collected at par, the total income will include the interest collected plus the discount.

(*Continued at bottom of page 237.*)

Schedule of Amortization
6% Bond Bought to Yield 5%

Jan. 1, 1960	Cost		$1,035.85
July 1	Cash debit—for coupon	$30.00	
	Interest credit—2½% of $1,035.85	25.90	
	Bond Investment account credit—for premium amortized		4.10
	Carrying value of bond		$1,031.75
Jan. 1, 1961	Coupon	$30.00	
	Interest—2½% of $1,031.75	25.79	4.21
	Carrying value		$1,027.54
July 1	Coupon	$30.00	
	Interest—2½% of $1,027.54	25.69	4.31
	Carrying value		$1,023.23
Jan. 1, 1962	Coupon	$30.00	
	Interest—2½% of $1,023.23	25.58	4.42
	Carrying value		$1,018.81
July 1	Coupon	$30.00	
	Interest—2½% of $1,018.81	25.47	4.53
	Carrying value		$1,014.28
Jan. 1, 1963	Coupon	$30.00	
	Interest—2½% of $1,014.28	25.36	4.64
	Carrying value		$1,009.64
July 1	Coupon	$30.00	
	Interest—2½% of $1,009.64	25.24	4.76
	Carrying value		$1,004.88
Jan. 1, 1964	Coupon	$30.00	
	Interest—2½% of $1,004.88	25.12	4.88
	Carrying value at maturity		$1,000.00

Alternative Schedule of Amortization
6% Bond Bought to Yield 5%

Date	Debit Cash	Credit Interest Earned	Credit Bond Investment	Carrying Value
Jan. 1, 1960				$1,035.85
July 1	$ 30.00	$ 25.90	$ 4.10	1,031.75
Jan. 1, 1961	30.00	25.79	4.21	1,027.54
July 1	30.00	25.69	4.31	1,023.23
Jan. 1, 1962	30.00	25.58	4.42	1,018.81
July 1	30.00	25.47	4.53	1,014.28
Jan. 1, 1963	30.00	25.36	4.64	1,009.64
July 1	30.00	25.24	4.76	1,004.88
Jan. 1, 1964	30.00	25.12	4.88	1,000.00
	$240.00	$204.15	$35.85	

When the effective yield method of amortization is used:

The Interest Earned account is credited with amounts computed by multiplying the increasing balance of the investment account by the effective rate.

The discount amortization each period is the difference between the cash interest collected and the amount credited to Interest Earned.

The following schedule shows how the effective yield amortization method would be applied to the 6% bond bought for \$965.63 to yield 7%:

Schedule of Amortization
6% Bond Bought to Yield 7%

Jan. 1, 1960	Cost		\$ 965.63
July 1	Interest credit—3½% of \$965.63	\$33.80	
	Cash debit—for coupon	30.00	
	Bond Investment account debit—for discount amortized		3.80
	Carrying value of bond		\$ 969.43
Jan. 1, 1961	Interest—3½% of \$969.43	\$33.93	
	Coupon	30.00	3.93
	Carrying value		\$ 973.36
July 1	Interest—3½% of \$973.36	\$34.07	
	Coupon	30.00	4.07
	Carrying value		\$ 977.43
Jan. 1, 1962	Interest—3½% of \$977.43	\$34.21	
	Coupon	30.00	4.21
	Carrying value		\$ 981.64
July 1	Interest—3½% of \$981.64	\$34.36	
	Coupon	30.00	4.36
	Carrying value		\$ 986.00
Jan. 1, 1963	Interest—3½% of \$986.00	\$34.51	
	Coupon	30.00	4.51
	Carrying value		\$ 990.51
July 1	Interest—3½% of \$990.51	\$34.67	
	Coupon	30.00	4.67
	Carrying value		\$ 995.18
Jan. 1, 1964	Interest—3½% of \$995.18	\$34.83	
	Coupon	30.00	4.83
	Carrying value at maturity		\$1,000.01

The amortization schedule may also be set up as follows:

Schedule of Amortization
6% Bond Bought to Yield 7%

Date	Debit Cash	Debit Bond Investment	Credit Interest Earned	Carrying Value
Jan. 1, 1960				\$ 965.63
July 1	\$ 30.00	\$ 3.80	\$ 33.80	969.43
Jan. 1, 1961	30.00	3.93	33.93	973.36
July 1	30.00	4.07	34.07	977.43
Jan. 1, 1962	30.00	4.21	34.21	981.64
July 1	30.00	4.36	34.36	986.00
Jan. 1, 1963	30.00	4.51	34.51	990.51
July 1	30.00	4.67	34.67	995.18
Jan. 1, 1964	30.00	4.83	34.83	1,000.01
	\$240.00	\$34.38	\$274.38	

The credit to Interest Earned each period is 3½% of the carrying value of the investment at the beginning of that period; the credits to Interest Earned increase because the carrying value of the

investment increases. The difference between the Interest Earned credit and the Cash debit for the coupon is debited to the Bond Investment account as an accumulation of discount.

Amortization at interim dates on bonds owned. The foregoing illustrations of the amortization of premium and discount on bond investments are based on the assumption that an interest date coincides with the close of the fiscal year of the owner of the bonds. Let us now assume that the interest is payable on January 1 and July 1, and that the company which owns the bonds closes its books on February 28 or 29. The entries to be made at the interest dates and at the end of the fiscal year are indicated below:

Illustrative entries applicable to bonds bought at a premium:

February 29, 1960:		
Accrued interest receivable	10.00	
Bond investment (1/3 of $4.10*)		1.37
Interest earned		8.63
July 1, 1960:		
Cash	30.00	
Accrued interest receivable		10.00
Bond investment ($4.10 − $1.37)		2.73
Interest earned		17.27
January 1, 1961:		
Cash	30.00	
Bond investment		4.21
Interest earned		25.79
February 28, 1961:		
Accrued interest receivable	10.00	
Bond investment (1/3 of $4.31)		1.44
Interest earned		8.56

* See schedule of amortization on page 237.

Illustrative entries applicable to bonds bought at a discount:

February 29, 1960:		
Accrued interest receivable	10.00	
Bond investment (1/3 of $3.80*)	1.27	
Interest earned		11.27
July 1, 1960:		
Cash	30.00	
Bond investment ($3.80 − $1.27)	2.53	
Accrued interest receivable		10.00
Interest earned		22.53
January 1, 1961:		
Cash	30.00	
Bond investment	3.93	
Interest earned		33.93
February 28, 1961:		
Accrued interest receivable	10.00	
Bond investment (1/3 of $4.07)	1.36	
Interest earned		11.36

* See schedule of amortization on page 238.

Premium on bonds issued. In the following schedule, based on an issue of 6% bonds at a price to yield the purchaser a 5% return, the semiannual charge to Bond Interest was computed by multiplying the amount shown in the "Bonds Plus Premium" column as of the beginning of the period by the semiannual effective interest rate of 2½%. The debit to the Bond Premium account is the excess of the cash payment over the debit to Bond Interest.

6% Five-Year Bond Issue Sold to Yield 5%

Period	Debit Bond Interest	Debit Bond Premium	Credit Cash	Bonds Plus Premium
				$104,376.03
1	$ 2,609.40	$ 390.60	$ 3,000.00	103,985.43
2	2,599.64	400.36	3,000.00	103,585.07
3	2,589.63	410.37	3,000.00	103,174.70
4	2,579.37	420.63	3,000.00	102,754.07
5	2,568.85	431.15	3,000.00	102,322.92
6	2,558.07	441.93	3,000.00	101,880.99
7	2,547.02	452.98	3,000.00	101,428.01
8	2,535.70	464.30	3,000.00	100,963.71
9	2,524.09	475.91	3,000.00	100,487.80
10	2,512.20	487.80	3,000.00	100,000.00
	$25,623.97	$4,376.03	$30,000.00	

Discount on bonds issued. The following schedule shows the amortization of the $4,376.03 discount on 4% bonds sold to yield 5%.

4% Five-Year Bond Issue Sold to Yield 5%

Period	Debit Bond Interest	Credit Cash	Credit Bond Discount	Bonds Minus Discount
				$ 95,623.97
1	$ 2,390.60	$ 2,000.00	$ 390.60	96,014.57
2	2,400.36	2,000.00	400.36	96,414.93
3	2,410.37	2,000.00	410.37	96,825.30
4	2,420.63	2,000.00	420.63	97,245.93
5	2,431.15	2,000.00	431.15	97,677.08
6	2,441.93	2,000.00	441.93	98,119.01
7	2,452.98	2,000.00	452.98	98,571.99
8	2,464.30	2,000.00	464.30	99,036.29
9	2,475.91	2,000.00	475.91	99,512.20
10	2,487.80	2,000.00	487.80	100,000.00
	$24,376.03	$20,000.00	$4,376.03	

The semiannual charge to Bond Interest was computed by multiplying the amount shown in the "Bonds Minus Discount" column as of the beginning of the period by the semiannual effective interest rate of 2½%. The credit to the Bond Discount account is the excess of the debit to Bond Interest over the cash interest payment.

Amortization at interim dates on bonds issued. Referring to the two schedules applicable to bonds issued, let us assume that the bonds were issued on October 31, that the interest dates are

October 31 and April 30, and that the issuing company closes its books on December 31.

Illustrative entries applicable to bonds issued at a premium:

First calendar year:		
December 31:		
Bond premium (1/3 of $390.60)	130.20	
Bond interest ($1,000.00 − $130.20)	869.80	
Accrued bond interest		1,000.00
Second calendar year:		
April 30:		
Bond premium ($390.60 − $130.20)	260.40	
Bond interest	1,739.60	
Accrued bond interest	1,000.00	
Cash		3,000.00
October 31:		
Bond premium (per schedule)	400.36	
Bond interest	2,599.64	
Cash		3,000.00
December 31:		
Bond premium (1/3 of $410.37)	136.79	
Bond interest	863.21	
Accrued bond interest		1,000.00

Illustrative entries applicable to bonds issued at a discount:

First calendar year:		
December 31:		
Bond interest	796.87	
Bond discount (1/3 of $390.60)		130.20
Accrued bond interest		666.67
Second calendar year:		
April 30:		
Bond interest	1,593.73	
Accrued bond interest	666.67	
Bond discount ($390.60 − $130.20)		260.40
Cash		2,000.00
October 31:		
Bond interest (per schedule)	2,400.36	
Bond discount		400.36
Cash		2,000.00
December 31:		
Bond interest	803.46	
Bond discount (1/3 of $410.37)		136.79
Accrued bond interest		666.67

Ascertaining the price "on a basis." Bonds are frequently quoted "on a basis"; that is, at a price to yield a stated effective rate. Thus: "Chesterton 6's offered on a 5% basis"; or "Ordway 6½'s to net 6." When quotations are made in this way, it is necessary to determine the price at which the issuance or purchase will be made in order to net the stated rate. The price may be determined by reference to a bond table or "basis book," or by mathematical computation.

Bond tables. Part of a table, for bonds due in four years, bearing different nominal rates (appearing at the top) and earning different effective rates (shown at the side) is presented below:

Four Years
Interest Payable Semiannually

Per Cent Per Annum	3%	3½%	4%	4½%	5%	6%	7%
4.00	96.34	98.17	100.00	101.83	103.66	107.33	110.99
4.10	95.98	97.81	99.63	101.46	103.29	106.94	110.60
4.125	95.89	97.72	99.54	101.37	103.20	106.85	110.50
4.20	95.62	97.45	99.27	101.09	102.92	106.56	110.21
4.25	95.45	97.27	99.09	100.91	102.73	106.38	110.02
4.30	95.27	97.09	98.91	100.73	102.55	106.19	109.83
4.375	95.00	96.82	98.64	100.45	102.27	105.90	109.54
4.40	94.92	96.73	98.55	100.36	102.18	105.81	109.44
4.50	94.56	96.38	98.19	100.00	101.81	105.44	109.06
4.60	94.21	96.02	97.83	99.64	101.45	105.06	108.68
4.625	94.13	95.93	97.74	99.55	101.36	104.97	108.58
4.70	93.87	95.67	97.47	99.28	101.08	104.69	108.30
4.75	93.69	95.49	97.30	99.10	100.90	104.51	108.11
4.80	93.52	95.32	97.12	98.92	100.72	104.32	107.92
4.875	93.26	95.06	96.85	98.65	100.45	104.04	107.64
4.90	93.17	94.97	96.77	98.56	100.36	103.95	107.54
5.00	92.83	94.62	96.41	98.21	100.00	103.59	107.17
5.10	92.49	94.28	96.06	97.85	99.64	103.22	106.80
5.125	92.40	94.19	95.98	97.77	99.55	103.13	106.70
5.20	92.15	93.93	95.72	97.50	99.29	102.86	106.43
5.25	91.98	93.76	95.54	97.33	99.11	102.67	106.24
5.30	91.81	93.59	95.37	97.15	98.93	102.49	106.06
5.375	91.55	93.33	95.11	96.89	98.67	102.22	105.78
5.40	91.47	93.25	95.02	96.80	98.58	102.13	105.69
5.50	91.13	92.91	94.68	96.45	98.23	101.77	105.32
5.625	90.71	92.48	94.25	96.02	97.79	101.33	104.86
5.75	90.30	92.06	93.83	95.59	97.35	100.88	104.41
5.875	89.88	91.64	93.40	95.16	96.92	100.44	103.96
6.00	89.47	91.23	92.98	94.74	96.49	100.00	103.51

Tables carried to more decimal places are available.

Looking down the 6% column to the 5% line, a value of \$103.59 will be found. This corresponds to the \$1,035.85 valuation of the \$1,000 6% bond bought to net 5%, used in the illustration on page 237.

The price which should be paid for a bond to net a stated rate will depend on the life of the bond. If the effective rate is lower than the nominal rate, the bond will be bought at a premium; the longer the life of the bond, the greater the premium, because of the longer time during which the premium will be written off. Similarly, if the effective rate is higher than the nominal rate, the bond will be bought at a discount, and the longer the life of the bond, the greater the discount. Bond tables are therefore arranged by years; and, since interest is usually payable semiannually, the

bond table contains values for half-years also. The first page of the book shows values for bonds due in a half-year; the second page shows values for bonds due in one year; the third page, values for bonds due in a year and a half; and so on.

Computing the price—first method. If bond tables are not available, the price to yield a stated rate may be computed with the aid of interest and annuity tables.

If a bond is to yield a certain effective rate, the price paid for the bond must be the present value, at the effective rate, of the future benefits to be received. These benefits consist of two elements, as follows:

(1) Par at maturity,
(2) A series of interest payments, which constitute an annuity.

The total of the present values of these two benefits is the price.

First illustration—Effective rate lower than nominal rate, or bond bought at a premium:

What price should be paid for a $1,000 four-year bond, bearing 6% interest, payable semiannually, bought to net 5%?

Since the interest is payable semiannually, the effective rate is really 2½% per period, and in four years there are eight interest periods. A table of present values of 1 shows that the present value of 1 due eight periods hence at 2½% is .82074657, and a table of present values of annuities shows that the present value of an annuity of eight rents of 1 at 2½% is 7.17013717.

Present value of par:	
$1,000 × .82074657	$ 820.746
Present value of 8 coupons of $30 each:	
$30 × 7.17013717	215.104
Total—or price of bond (See illustration on page 237)	$1,035.850

Second illustration—Effective rate higher than nominal rate, or bond bought at a discount:

What price should be paid for a $1,000 four-year bond, bearing 6% interest, payable semiannually, bought to net 7%? A table of present values of 1 shows that the present value of 1 due eight periods hence at 3½% is .75941156, and a table of present values of annuities shows that the present value of an annuity of eight rents of 1 at 3½% is 6.87395554.

Present value of par:	
$1,000 × .75941156	$759.411
Present value of 8 coupons of $30 each:	
$30 × 6.87395554	206.219
Total—or price of bond (See illustration on page 238)	$965.630

Computing the price—second method. To understand this method, assume that an investor is willing to buy on a 5% basis. If he can find a satisfactory bond paying a nominal rate of 5%, he will pay par. In other words, he will pay $1,000 for a bond with a par value of $1,000 and paying $25 interest every six months. But suppose he finds a desirable bond bearing 6%; what price will he pay if he buys it on a 5% basis? The rights appertaining to such a bond, and the price to be paid for these rights, may be set out as follows:

Rights	Price
Par at maturity—$1,000 Interest of $25 per period of six months	$1,000
Additional interest of $5 per period	Premium

The amount of the premium will be the present value, computed at the effective rate, of the annuity of excess interest payments.

First illustration—Effective rate lower than nominal rate, or bond bought at a premium. What price should be paid for a $1,000 four-year bond, bearing 6% interest payable semiannually, bought to net 5%?

The present value of an annuity of $1 for eight periods at 2½% is $7.1701372.

3% (nominal rate) of $1,000	$ 30.00
2½% (effective rate) of $1,000	25.00
Difference	$ 5.00
Multiply by present value of annuity	7.1701372
Premium	$ 35.85
Add par	1,000.00
Price	$ 1,035.85

Second illustration—Effective rate higher than nominal rate, or bond bought at a discount. What price should be paid for a $1,000 four-year bond, bearing 6% interest payable semiannually, bought to net 7%?

The present value of an annuity of $1 for eight periods at 3½% is $6.873956.

3½% (effective rate) of $1,000	$ 35.00
3% (nominal rate) of $1,000	30.00
Difference	$ 5.00
Multiply by present value of annuity	6.873956
Discount	$ 34.37
Par	$1,000.00
Deduct discount	34.37
Price	$ 965.63

Optional redemption. If a bond gives the debtor the privilege of paying it before maturity, and if it is to be purchased to net a given rate, the purchaser should compute the price (1) on the assumption that the bond will not be paid before maturity, and (2) on the assumption that it will be paid at the earliest optional date, and he should pay the lower of the two prices. Illustrations are given below:

(1) The bond may be paid at par at the optional date.

(a) Effective rate higher than nominal rate.

Assume a 5% $100 bond due in twenty years, with the option of redemption at par any time after fifteen years. To be purchased to net 6%.

Price of a 20-year 5% bond to net 6% (per bond table)	$88.44
Price of a 15-year 5% bond to net 6% (per bond table)	90.20

The price on the full-term assumption is the lower one, and is the amount which should be paid. This will always be the case when a bond is purchased at a discount. The amortization of the discount on such a bond should be based on the twenty-year period because it is more conservative to take up the discount income over twenty years than over fifteen years.

(b) Effective rate lower than nominal rate.

Assume a 6% $100 bond due in twenty years, with the option of redemption at any time after fifteen years, at par. Bought to net 5%.

Price of a 20-year 6% bond to net 5% (per bond table)	$112.55
Price of a 15-year 6% bond to net 5% (per bond table)	110.47

The price on the optional-date assumption is the lower one. This will always be the case when a bond is purchased at a premium and when no premium is required for redemption at the optional date.

It is conservative, in an instance of this kind, to amortize the premium over the fifteen-year period so that the bond will be carried at par at the optional redemption date, and a special loss will not have to be taken at that date if the optional redemption privilege is exercised.

(2) A premium is required if the bond is paid at the optional date.

(a) Effective rate higher than nominal rate.

Assume that a 5% \$100 bond due in twenty years may be redeemed at any time after fifteen years at a premium of 5%. Bought to net 6%.

Price of a 20-year 5% bond to net 6% (per bond table)			\$88.44
Price of a 15-year 5% bond redeemable at 105, bought to net 6%:			
Present value of par and premium:			
Present value at 3% of \$1 due in 30 periods	\$.411987		
Multiply by	105	\$43.258	
Present value of coupons:			
\$2.50 (coupons) × 19.6004 (present value at 3% of an annuity of 30 rents of 1)		49.001	\$92.26

The price on the assumption of payment at maturity will always be the lower one when the bond is bought at a discount, regardless of the premium required for payment at the optional date.

(b) Effective rate lower than nominal rate.

Assume that a 6% \$100 bond due in twenty years may be redeemed at any time after fifteen years at a premium of 5%. Bought to net 5%.

Price of a 20-year 6% bond to net 5% (per bond table)			\$112.55
Price of a 15-year 6% bond redeemable at 105, bought to net 5%:			
Present value of par and premium:			
Present value at 2½% of \$1 due in 30 periods	\$.476743		
Multiply by	105	\$50.058	
Present value of coupons:			
\$3.00 (coupons) × 20.93028 (present value at 2½% of 30 rents of 1)		62.790	\$112.85

Although, in this instance, the price on the assumption of payment at maturity is the lower one, a change in the amount of premium might cause the price on the optional-redemption assumption to be the lower one.

Purchases at effective rate between interest dates. The methods shown for computing the price to be paid for a bond in order to earn a given effective rate apply to purchases made at interest dates. The great majority of purchases are made between interest dates, and in such instances the price to be paid can be determined by either of the following methods:

First method:

Determine the prices as of the next preceding and the next succeeding interest dates.

The difference is the premium or discount applicable to the intervening period.

Determine the pro rata portion of this premium or discount applicable to the time expired between the last interest date and the date of purchase.

Apply this portion of the premium or discount (as an amortization) to the price at the preceding interest date. This amortized value is the amount to be charged to the investment account.

Add the accrued interest on par at the nominal rate; the sum is the cost of the bond.

Second method:

Compute accrued interest at the effective rate on the value at the preceding interest date.

Add this accrued interest to the value at the preceding interest date; the sum is the price to be paid for the bond.

From this price deduct accrued interest on the face of the bond at the nominal rate to determine the portion of the purchase price to be charged to the Bond Investment account.

Illustration: Bond at a premium. In the illustration (page 237) of a 6% bond purchased at a premium, to net 5%, it was assumed that the purchase was made on January 1, 1960, four years before maturity. Assume now that the purchase was made on February 1.

Solution by first method:

Price on January 1, 1960 (per bond tables or by computation)	$1,035.85
Price on July 1, 1960 (per bond tables or by computation)	1,031.75
Premium to be amortized for 6 months	$ 4.10
Premium for 1 month	$ .68
Price on January 1, 1960	$1,035.85
Deduct premium for 1 month	.68
Balance	$1,035.17
Add accrued interest for 1 month at 6% on $1,000	5.00
Price on February 1, 1960	$1,040.17

Solution by second method:

Price at next preceding interest date	$1,035.85
Interest on $1,035.85 for one month at the effective rate of 5%	4.32
Sum, or price of the bond	$1,040.17
Portion to be charged to Accrued Interest Receivable: interest on $1,000 at 6% for one month	5.00
Portion to be charged to Bond Investment	$1,035.17

Entry for purchase:

Bond investment	1,035.17	
Accrued interest receivable	5.00	
Cash		1,040.17

Interest entry on July 1, 1960:

Cash	30.00	
Accrued interest receivable		5.00
Bond investment		3.42
Interest earned (to balance the entry)		21.58

The credit to the Bond Investment account is computed as follows:

Debit to investment account in entry for purchase	\$1,035.17
Proper carrying value on July 1, 1960, or price which would have been paid on that date	1,031.75
Credit for amortization	\$ 3.42

Having adjusted the Bond Investment account to the proper carrying value on July 1, 1960, amortization entries thereafter will correspond with the entries in the amortization schedule on page 237.

Illustration: Bond at a discount. In the illustration (page 238) of a 6% bond purchased at a discount to net 7%, it was assumed that the purchase was made on January 1, 1960, four years before maturity. Assume that the purchase was made February 1, 1960.

Solution by first method:

Price on July 1, 1960	\$969.43
Price on January 1, 1960	965.63
Discount to be amortized for 6 months	\$ 3.80
Discount for 1 month	\$ .63
Price on January 1, 1960	\$965.63
Add discount for one month	.63
Total	\$966.26
Add accrued interest at 6% for 1 month on \$1,000	5.00
Price on February 1, 1960	\$971.26

Solution by second method:

Price at next preceding interest date	\$965.63
Interest on \$965.63 for one month at the effective rate of 7%	5.63
Sum or price of the bond	\$971.26
Portion to be charged to Accrued Interest Receivable; interest on \$1,000 at 6% for one month	5.00
Portion to be charged to Bond Investment	\$966.26

Entry for purchase:

Bond investment	966.26	
Accrued interest receivable	5.00	
Cash		971.26

Interest entry on July 1, 1960:

Cash	30.00	
Bond investment (\$969.43 − \$966.26)	3.17	
Accrued interest receivable		5.00
Interest earned		28.17

Issuances at effective rate between interest dates. The methods just described for computing the price to be paid for a bond between interest dates to yield an effective rate can, of course, be used to compute the price at which bonds should be issued between interest dates to net an effective interest rate.

For instance, assume that $100,000 of 6% bonds due in 10 years are authorized and that they are issued two months after their date on a 5% basis. The issuing price may be computed as follows:

Issuing price 10 years before maturity	$107,794.58
Add interest at 5% (effective rate) for 2 months	898.29
Total	$108,692.87
Amount to be credited to Accrued Bond Interest Payable—2 months' interest on $100,000 at 6% per annum	1,000.00
Remainder	$107,692.87
Par	100,000.00
Premium	$ 7,692.87

The entry to record the issuance is:

Cash	108,692.87	
Bonds payable		100,000.00
Premium on bonds		7,692.87
Accrued bond interest payable		1,000.00

If the bonds bore 5% interest and were issued on a 6% basis, the issuing price two months after date could be computed as follows:

Issuing price 10 years before maturity	$92,561.26
Add interest at 6% (effective rate) for 2 months	925.61
Total	$93,486.87

The entry to record the issuance is:

Cash	93,486.87	
Discount on bonds	7,346.46	
Bonds payable		100,000.00
Accrued bond interest payable		833.33

The discount was determined as the balancing figure: the par of the bonds plus the accrued interest minus the cash received.

Computing the effective rate. When the effective rate of a bond is unknown, there is no short and accurate method of computing it. An approximation may be made by interpolation in a bond table. (The longer the life of the bond and the larger the premium or discount, the less accurate the approximation.)

To illustrate: what is the effective rate on a $100 6% bond, due in four years, bought for $103.59?

On the four-year page of the bond table (see page 242), in the 6% nominal rate column we find the values shown on page 250.

Effective Rate	Price
4.90%	$103.95
5.00	103.59
5.10	103.22

Of course, this table at once shows that the rate is 5%. But assume that the table did not contain the 5% value. The approximation would then be made as follows:

	Rate	Price
	4.90%	$103.95
	5.10	103.22
Differences	.20%	$ .73

	Rate	Price
	4.90%	$103.95
	Unknown	103.59
Difference		$ .36

$$\text{Then the rate} = 4.90\% + \left(\frac{36}{73} \text{ of } .20\%\right)$$
$$= 4.90\% + .0986\%$$
$$= 4.9986\%.$$

Computing the price of serial bonds at an effective rate. If serial bonds are issued at a premium or a discount, there may be the problem of computing the price at which they should be issued to yield the investors a certain effective rate of income. This can easily be done with bond tables. The bonds of each maturity are regarded as a separate issue; by reference to a bond table there can be determined the price at which each such separately regarded issue would be sold to net the effective rate; and the sum of the prices for such separate issues is the price at which the entire serial issue should be sold to net the effective rate.

As a simple illustration, assume a total issue of $500 of bonds, payable in five annual installments of $100, beginning at the end of the sixth year, the nominal interest rate being 5% and the desired effective rate being 6%. The total issuing price is the aggregate of the proper prices for the five bonds, which can be determined from a bond table. The bond maturing at the end of the sixth year should sell for $95.02; the one due at the end of the seventh year should sell for $94.35. The values for the five bonds are listed and totaled below.

Year of Maturity	Price
6	$ 95.02
7	94.35
8	93.72
9	93.12
10	92.56
Total	$468.77

Amortization—effective rate method. There is also the problem of equitably amortizing the discount or premium over the entire life of a serial bond issue, keeping in mind the fact that an equal annual amortization would not be proper because of the changes in the amounts of bonds outstanding.

The most correct procedure, of course, is amortization by the effective interest rate method. The following schedule shows such amortization of the discount on the $500 serial bond issue mentioned above.

Schedule of Amortization
5% Serial Bonds Issued on a 6% Basis

Period	Bonds Retired	Debit Bond Interest	Credit Cash	Credit Bond Discount	Bonds Minus Discount
					$468.77
1		$ 14.06	$ 12.50	$ 1.56	470.33
2		14.11	12.50	1.61	471.94
3		14.16	12.50	1.66	473.60
4		14.21	12.50	1.71	475.31
5		14.26	12.50	1.76	477.07
6		14.31	12.50	1.81	478.88
7		14.37	12.50	1.87	480.75
8		14.42	12.50	1.92	482.67
9		14.48	12.50	1.98	484.65
10		14.54	12.50	2.04	486.69
11		14.60	12.50	2.10	488.79
12	$100.00	14.67	12.50	2.17	390.96
13		11.73	10.00	1.73	392.69
14	100.00	11.78	10.00	1.78	294.47
15		8.84	7.50	1.34	295.81
16	100.00	8.88	7.50	1.38	197.19
17		5.92	5.00	.92	198.11
18	100.00	5.94	5.00	.94	99.05
19		2.97	2.50	.47	99.52
20	100.00	2.98	2.50	.48	
Total	$500.00	$231.23	$200.00	$31.23	

Computing the effective rate. If the effective rate of a serial bond issue is not known, it can be computed with a fair degree of accuracy by the method illustrated below. Returning to the illustration of the $500 of 5% serial bonds sold for $468.77, let us assume that the effective rate is not known.

The average issuing price is $468.77 ÷ 5 = $93.75
The average life of the bonds is:
$6 + 7 + 8 + 9 + 10 = 40$
$40 \div 5 = 8$, or average life in years
Looking at a bond table on the eight-year page and in the 5% nominal rate column, the value nearest to $93.75 is $93.72, which is the price on a 6% basis.

If the bond table does not show a value close to the average issuing price, an interpolation procedure may be used. To illus-

trate, assume that the bonds were issued for $470, or at an average price of $94, and that the next higher and lower values shown in the 5% nominal rate column of the 8-year bond table are:

On a 5.875% basis	$94.48
On a 6 % basis	93.72

Adding the values, as shown by the bond table, of five bonds on a 5.875% basis and a 6% basis, maturing in 6, 7, 8, 9, and 10 years, we have the amounts shown below.

Year of Maturity	On 5.875% Basis	On 6% Basis
6	$ 95.63	$ 95.02
7	95.04	94.35
8	94.48	93.72
9	93.95	93.12
10	93.45	92.56
Total	$472.55	$468.77

The interpolation is performed as follows:

Value on a 5.875% basis	$472.55	$472.55
Value on a 6% basis	468.77	
Issuing price		470.00
Differences	$ 3.78	$ 2.55

Then the approximate effective rate is:

5.875% + (2.55/3.78 of .125%)
5.875% + .084%
5.959%

It should be understood that the larger the bond issue, or the longer the period over which redemptions are spread, or the greater the premium or discount, the greater the degree of inaccuracy in this method of computing the approximate effective rate on serial bonds.

Annuity bonds. A form of bond issue sometimes used by municipalities provides for annual redemptions to be made in such amounts that the total annual payments on principal and interest will always be equal. Since the interest payments will be larger in the early years than in the later years, the payments on principal will be smaller in the early than in the later years.

To illustrate, assume that a 5% bond issue of $10,000 is to be paid in ten equal amounts which are to include principal and interest. As the $10,000 is the present value of the ten equal annual payments, the annual payment is computed in the following manner:

The present value of an annuity of $1 for 10 periods at 5% is $7.72173493
Then $10,000 ÷ 7.72173493 = $1,295.05, the annual payment

To maintain an absolute equality of annual payments, bonds in odd amounts would have to be issued, as indicated in the "Debit Bonds" column of the following schedule, which shows the payments apportioned between principal and interest.

Schedule of Payment of Annuity Bonds

Year	Debit Bond Interest	Debit Bonds	Credit Cash	Unpaid Bonds
				$10,000.00
1	$ 500.00	$ 795.05	$ 1,295.05	9,204.95
2	460.25	834.80	1,295.05	8,370.15
3	418.51	876.54	1,295.05	7,493.61
4	374.68	920.37	1,295.05	6,573.24
5	328.66	966.39	1,295.05	5,606.85
6	280.34	1,014.71	1,295.05	4,592.14
7	229.61	1,065.44	1,295.05	3,526.70
8	176.34	1,118.71	1,295.05	2,407.99
9	120.40	1,174.65	1,295.05	1,233.34
10	61.67	1,233.38	1,295.05	.04*
	$2,950.46	$10,000.04	$12,950.50	

* Error.

This method has three advantages over the sinking fund method of repayment: first, it avoids the danger of misappropriation of sinking fund assets; second, it avoids the possibility of loss on sales of sinking fund securities; and third, it avoids the burden of paying a higher interest rate on the bonds than can be earned on safe investments in the sinking fund. From the standpoint of a municipality, it has the further advantage of spreading the payments equally over the life of the bonds, thus making an equitable distribution among taxpayers in successive years.

The issuing of bonds in odd amounts would probably be a disadvantage in marketing, but approximate results could be obtained by issuing bonds to the nearest hundred dollars, as $800 repayable the first year, $800 repayable the second year, $900 repayable the third year, and so on.

Investments in annuities. Annuities are frequently purchased by individuals as a means of future financial protection; they are rarely purchased by businesses. To illustrate the accounting procedure applicable to purchased annuities, refer to page 219 and assume that an annuity of four payments was purchased on a 5% basis at the indicated price of $354.60. At the end of the first year, the entry would be:

Cash	100.00	
Interest earned		17.73
Annuity contract		82.27

CHAPTER FOURTEEN

Estates and Trusts

Administration and distribution of an estate. The laws governing the administration and distribution of estates vary to some extent in the different states. The discussion of estates and estate accounting in this text should be understood to be a generalization from a country-wide standpoint, subject to exceptions arising from the differing statutes and court decisions of the several states. For this reason, and because the treatment of the subject in a text devoted to the general field of accounting must necessarily be limited, the two chapters on estates and trusts should be understood to present only a survey of the subject.*

If a person dies intestate—that is to say, without leaving a will, or leaving an invalid will—his estate will be distributed among his distributees in accordance with the laws of descent and distribution, the laws of descent determining the disposition of the real estate to the heirs, and the laws of distribution determining the disposition of the personal property to the next of kin. The administration and disposition of the property is controlled by a court known variously, in different states, as the *probate*, *sur-*

* The authors are very greatly indebted to Emanuel Saxe, Ph. D., C.P.A., a member of the New York bar, and Dean of the Bernard M. Baruch School of Business and Public Administration, City College of New York, who offered invaluable suggestions and criticisms. For a more comprehensive treatment of the subject, the reader is referred to Dean Saxe's book, *Estate Accounting*. (New York: the author, 17 Lexington Avenue, 1939.)

rogate's, or *orphans' court*. The work of dealing with the intestate's assets, paying the debts and charges, and making distribution is placed in the hands of an administrator, who is appointed by the court and to whom the court issues letters of administration evidencing his authority. If a will, although valid, directs the disposition of only a portion of the estate property, a condition of *partial intestacy* exists.

If the decedent leaves a valid will disposing of his entire estate, the laws of descent and distribution will not be operative, and the estate will be distributed in accordance with the wishes of the testator or testatrix, as expressed in this will. (This statement is subject to such exceptions as the widow's option to renounce her rights under the will and claim her elective or distributive share under the law.)

Before the will can become operative, it must be admitted to probate, that is, duly proved. A petition is presented to the court, asking that the will be admitted to probate; a date is set for the hearing, and all interested parties are properly notified. At this hearing, the witnesses testify with respect to all significant matters incident to the due and proper execution of the will, including the authenticity of their signatures and that of the decedent. If the witnesses are dead or cannot appear, an attestation clause in the will may help to prove its authenticity; persons familiar with the signatures of the decedent and the witnesses may testify to the genuineness of their signatures. If the court is satisfied that the will is a valid instrument, executed without fraud when the decedent was of age, otherwise competent, and not subject to restraint or undue influence, the will is admitted to probate.

If an executor is named in the will, and if he is competent and willing to serve, he will be granted letters testamentary by the court. If no executor is named in the will, or if one is named but is unwilling or incompetent to serve, the court will appoint an administrator with the will annexed (administrator c.t.a.—cum testamento annexo).

Duties of the executor or the administrator. The executor or the administrator (referred to hereafter by the general term, *fiduciary*) is expected to seek out and take possession of the personal property of the deceased; to keep the estate funds separate from his own; to dispose of perishable property as quickly as possible and, unless authorized by testamentary direction to retain them, of any investments not legally permissible for fiduciaries; to preserve and administer the estate in a prudent manner; to keep excess funds invested to the fullest extent possible; to pay the funeral and administration expenses, the just debts, the estate

and inheritance taxes, and all other proper charges; to distribute the estate to the persons entitled thereto; and to account to the court and all interested parties.

If there is a will, the real estate goes to the devisees, and the personal property, through the fiduciary, to the legatees. If there is no will, the administrator distributes the property to those who are next of kin, in accordance with the applicable law of intestacy. The fiduciary does not ordinarily administer or distribute the realty; the heirs take title to it directly from the decedent. The personal representative (fiduciary) of a testate decedent must carry out all of the directions in the will, including the erection of any trusts.

Title to personal property vests in the fiduciary and passes through him to the distributees, except that in many states certain household effects, a limited amount of cash, the decedent's clothes, and certain other personal effects may be exempt, title thereto passing directly to the widow or to minor children.

It is only rarely that the fiduciary exercises any control over the real estate, since, by the laws of most states, title vests in the heirs or devisees immediately upon the death of the decedent. If, however, the personal property is not sufficient to pay the debts and charges, the fiduciary generally possesses, or may apply to the court for, authority to sell, mortgage, or lease any parcels of realty in order to obtain funds with which to pay them. Or the will may specifically direct the fiduciary to administer the realty for various purposes. Where the testator has made a contract to sell real estate, the title to the real estate passes to the heir subject to the obligation of the heir to convey title to the vendee; and, since the claim against the vendee is personal property, it passes into the executor's control as part of the inventory of the estate.

The proceeds of life insurance policies payable to the estate pass into the hands of the fiduciary and must be accounted for by him; the proceeds of policies payable to specific beneficiaries are payable directly to them and are not part of the estate.

Inventory of assets. As soon as the fiduciary is appointed, he should marshal and take possession of the decedent's personal estate. Although the laws differ in the various states, it is desirable, and in some states obligatory, to file an inventory of the assets with the court. This inventory should show items and values; the valuations may be determined by the fiduciary unless the law or practice requires that the valuations be made by independent appraisers. The inventory should include all personal property of the decedent except exempt property.

If a testate decedent has made refundable advances to persons who are beneficiaries of his estate, such advances should be included in the inventory as estate assets, plus the interest thereon (unless a contrary intent appears) from the dates thereof to the dates of collection or distribution. In the case of intestacy, the treatment of advancements to the decedent's children is somewhat similar, except that interest is not generally charged. However, if the advancement to such child equals or exceeds his portion of the estate, he is entitled to no further participation, but he is not obligated to return any excess of the advance over his distributable share. If the advancement is less than the child's share, he is entitled to receive the balance of his share.

Income accrued* to and including the day of death is a part of the principal of the estate and should be included in the inventory. If assets are thought to be valueless, they should, nevertheless, be included in the inventory, with a statement that they have no value.

Although real estate titles pass directly to heirs or devisees without passing through the fiduciary, it may be desirable that real estate be inventoried, in order to fulfill the requirements of state inheritance laws and the federal estate tax laws. Moreover, in some states the real estate must be included in the inventory because the inventory, filed with the proper county officer, serves as evidence of the passing of title.

Any assets discovered after the inventory is completed should be reported in a supplementary inventory.

The total of the assets reported in the original and any subsequent inventories constitutes the principal or corpus of the estate.

Legacies and devises. A *legacy* (or *bequest*) is a gift of personal property made by a decedent in his will; the recipient thereof is called a *legatee.* A *devise* is a gift of real estate made by a decedent in his will; the recipient of the gift is called a *devisee.*

A *specific legacy* is a gift of some particular property, as a watch, a library, or a specifically described investment.

A *demonstrative legacy* is a legacy payable in cash out of a designated fund.

A *general legacy* is a gift of a sum of money.

A *residuary legacy* includes all personal property remaining after the payment of debts and charges and all other legacies. The residuary legatee receives "all the rest, residue, and remainder" of the personal estate.

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* See subsequent section, "Questions of accrual," for the classes of income which are recognized as accruing in the field of estates and trusts.

Legacies may be paid at any time after the fiduciary takes charge; but unless the estate is clearly sufficient to pay all debts, charges, and legacies, the fiduciary should defer the payment of the legacies at least for the legal executorial period, so that he can determine the amounts of the debts and charges; otherwise, he may incur a personal liability to creditors. Any liability owed to the estate by a legatee should be offset against his legacy.

Does accrued income on a specific legacy at the date of the decedent's death belong to corpus, or does it go with the gift to the legatee? The law on this subject does not seem to be well settled, and a fiduciary faced with the question should apply to the court for a ruling.

Interest on all unpaid legacies begins to accrue at the end of the executorial period, which varies in different states.

Liabilities. In some states it is obligatory, and in all states it is advisable, for the fiduciary to give published notice to creditors of the decedent to present their claims within the legal time limit. Claims will be presented to the fiduciary, or to the court, depending on the law of the state; presentation usually is made to the fiduciary. The fiduciary should include a statement in his accounting to the court showing the nature and extent of the claims filed.

Any claims which the executor considers invalid, he should reject; he is in duty bound to set up all legitimate defenses, including the statute of limitations and the statute of frauds. In some states, creditors whose claims have been rejected may appeal to the probate court; in other states, they must bring suit in the ordinary manner.

The debts and charges have precedence over legacies. If the residuary personal estate is not sufficient to pay the debts and charges, provision for their payment will generally be made by abatement (that is, by scaling down) of legacies, in the following order:

(a) General legacies (including such part of any demonstrative legacy as is not covered by the fund indicated for the payment thereof).
(b) Specific legacies.

If the entire personal estate is insufficient to pay the debts and charges, the fiduciary may sell, mortgage, or lease the decedent's realty to obtain funds for the payment of all proper debts and charges.

Trusts. The testator may provide in his will that all, or some portion, of the principal of the estate shall be placed in the hands of a trustee, or trustees, who shall keep the fund invested, distribute

the income to one class of beneficiary during a stated period of time, and eventually turn over the principal of the trust to another class of beneficiary, both being designated in the will. For instance, he may direct that the income shall be paid to his widow during her life and that, at her death, the principal shall be paid to his children or to some institution. Or he may direct that the income shall be distributed in equal parts to his children until the youngest surviving child reaches the age of twenty-five, and that the principal shall then be divided equally among them or their surviving children.

A trust created by a will is called a *testamentary trust.* If the trustee is named in the will, he is called a *testamentary trustee.* The person who is entitled to receive the income during a stated period, and the person who is entitled eventually to receive the principal, or corpus, are both beneficiaries of the trust. The income beneficiary is called the *cestui que trust.* The *cestui que trust* is called a *life tenant* if he is entitled to the income during the entire period of his life; if he is entitled to the income for a shorter period, he may be referred to merely as the *income beneficiary;* if the income beneficiary changes from time to time, each successive beneficiary may be referred to as the *present income beneficiary.* The person who is entitled eventually to receive the principal of the trust is called the *remainderman.* The income beneficiary and the remainderman may be the same person; for instance, a child may be entitled to the income of the trust until he attains his majority, and to the corpus of the trust at that date.

The trustee does not take over the duties of the trusteeship until the trust property is duly received by him. If real estate is included in the trust assets, the trustee takes title to it as of the date of the testator's death, but he does not take title to personal property until it is duly turned over to him. However, the trust takes effect as of the date of death; hence, the income beneficiary is entitled to the income from the trust assets from the date of death.

The trustee's investments must conform to the state laws which prescribe the classes of securities which may be purchased by trustees, unless the testator, in the will, authorizes the trustee to go beyond the limits allowed by law. The trustee must exercise diligence and prudence in managing the trust and must keep the funds invested. He is allowed a reasonable time in which to invest cash, after which time he may be charged with interest on uninvested funds.

Principal and income. Executors and trustees must keep their records in such a way as to distinguish clearly between the

principal and the income. The income beneficiary is entitled to the income (that is, the earnings on principal) during his tenancy, and the remainderman is entitled to the principal (or corpus). Therefore, if cash or property is received, the fiduciary must know, and must indicate in his records, whether the cash or property is applicable to principal or to income. Similarly, a careful distinction must be made between disbursements which are payable out of principal and those which are payable out of income.

The distinctions between principal and income must be made by the fiduciary in accordance with the law, unless a contrary treatment is prescribed in the will. However, the testator does not have *carte blanche* in his testamentary directions; he must not violate such paramount legal restrictions as, for example, the prohibition against illegal accumulations of income. In cases of doubt about the proper classification of an item as principal or income, the fiduciary should apply to the court for a ruling.

The situations calling for a distinction between principal and income may be broadly classified as follows:

(1) Questions of accrual, or apportionment on a time basis.
(2) Questions of classification.
(3) Questions of impairment.

Questions of accrual. The distinction between the cash basis and the accrual basis of accounting is well understood as applied to ordinary commercial accounts. But some items of income and expense that are treated on an accrual basis in commercial accounting are not so treated in estate and trust accounting.

There are two important dates to be noted in connection with the apportionment of items of receipt or expenditure as between the income beneficiary and the remainderman:

The date of the death of the testator.
The date when the tenancy terminates and the remainderman receives the corpus.

Accruable income on trust assets arising prior to the death of the testator belongs to the corpus of the estate, even though it is not collected until a subsequent date; similarly, any such expenses accrued prior to that date are payable out of principal cash.

Such income as accrues after the testator's death up to the termination of the tenancy belongs to the income beneficiary or his estate, regardless of the date of collection; and expenses accrued between these two dates are payable from income cash. Income and expenses accrued after the termination of the tenancy affect the interest of the remainderman. If there are several successive

income beneficiaries, accruals must be recognized at the close of each tenancy.

What earnings and expenses accrue* and must be apportioned between principal and income?

(1) Interest, in general, accrues from day to day, the interest accrued on receivables and investments to and including the date of death of the testator being principal, and interest accruing during the tenancy being income. Interest expense is similarly accrued. But interest on savings deposits in banks or savings and loan associations is generally not considered to accrue, but is treated as income of the period when it is declared to be available to account holders.

(2) Ordinary cash dividends do not accrue, but are generally considered income of the period when declared. Thus, a dividend declared prior to the testator's death is corpus, even though it is not collected until after his death; and an ordinary cash dividend declared during the tenancy is income, although paid from earnings prior to the testator's death or paid after the termination of the tenancy. In some states the governing date is that on which the corporation's stock records are closed to determine the stockholders of record to whom the dividends are payable.

A corporation may occasionally elect, instead of paying an ordinary cash dividend, to pay a stock dividend of approximately the same amount in order to preserve the corporation's current position; such dividends are generally treated in the same fashion as ordinary cash dividends.

The rule is not so simple in the case of extraordinary cash and stock dividends, since the laws with respect thereto differ in the various states. In some states such dividends during the period of tenancy are classified as income, in others they are classified as corpus, and in some states extraordinary dividends are apportioned between income and corpus. In states where apportionment is required, the computation is made by determining the book value per share of stock owned at the date of death (as shown by the paying corporation's books), and the book value per share after the payment of the divi-

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* The laws relative to the distinction between principal and income differ somewhat in the several states; therefore, the rules stated in this chapter should be regarded as generalizations, subject to state exceptions.

dend; if the book value after the payment of the dividend is less than that at the date of death, enough of the dividend must be allocated to corpus so that the book value of the stock after the payment of the dividend plus the dividend so allocated will be equal to the book value of the stock at the date of death.

If, as frequently happens in connection with property leased by one railroad to another, the lessee company guarantees the dividends on the stock of the lessor company, dividends paid by the lessor from funds received from the lessee in fulfillment of the guarantee partake of the nature of interest, and the accounting therefor should be on an accrual basis.

(3) Rents accrue in most states, although not in all. In the states in which they do accrue, rents earned prior to the death of the decedent are corpus, and the portion accruing during the tenancy is income. A similar rule applies to rents paid.

(4) Taxes on trust property do not generally accrue. Taxes which became a lien on the property before the date of the decedent's death are payable out of principal cash; taxes which become a lien on the property during the tenancy are a charge against income. In many states a specific devisee of realty must pay any taxes thereon accrued before the death of the testator and remaining unpaid at that time. Special assessments for local improvements may be chargeable to principal and/or income, depending on the benefits resulting from the improvements.

(5) Partnership earnings do not accrue. The death of a partner dissolves the partnership; if the books are closed as of the date of his death, the question of accrual does not arise, as the earnings to that date will be determined and will be classified as principal. However, the partnership articles sometimes provide that the books shall not be closed until some date subsequent to death; in such cases, the net income between the closing date prior to death and the closing date subsequent to death is regarded as principal in some jurisdictions and as income in others. If interest is allowed on a partner's capital, it generally accrues, in accordance with the basic interest rule.

(6) Contract gains do not accrue. A contract for other than personal services entered into by the testator must be completed by the fiduciary, but any gain belongs to the principal.

(7) Livestock born during the life tenancy is income, except to the extent necessary to keep the herd intact where such an intention is expressed or implied.
(8) If the trust principal includes land, crops harvested during the tenancy are income. If land is given as a devise, crops growing at the date of the testator's death go with the land.

Questions of classification. There are many items which do not involve the question of accrual and apportionment on a time basis, but which involve the equally important question of determining whether the whole amount should be classified as principal or as income.

Increases or decreases in assets forming part of the corpus are classified as corpus; increases or decreases in assets representing undistributed income are classified as income.

Other matters related to the classification of items between principal and income are discussed below, under the following captions:

(1) Items applicable to principal.
(2) Items applicable to the income.

Items applicable to principal. In general, it may be said that corpus should be charged with expenditures which represent the payment of obligations incurred prior or incident to the death of the decedent, expenses of administration prior to the setting up of a trust, and, thereafter, those expenditures which result in ultimate benefit to the remainderman.

The following are some of the expenditures ordinarily chargeable to principal:

(1) Debts of the decedent, expenses of the last illness, and funeral and administration expenses.
(2) Legal fees and court costs incurred in probating the will, in defending it against a contest, and in interpreting it.
(3) Costs of defending the estate against claims rejected by the fiduciary.
(4) Legal fees incurred in connection with a change in fiduciaries.
(5) Federal estate tax and state inheritance tax (except where otherwise prescribed by law).
(6) Legal fees and other costs of preserving the principal of the estate.
(7) Carrying charges on property which produces no income are usually chargeable to principal; otherwise, the desires of the testator with respect to the income beneficiary

> might not be fulfilled, because income from other trust assets would be applied to the carrying of unproductive assets for the benefit of the remainderman and to the detriment of the income beneficiary.

Premiums on fire insurance policies are usually considered to be payable out of income, but in case of loss the proceeds of the policy are considered to be a replacement of principal.

Items applicable to income. All ordinary operating expenses of the estate or the trust are payable out of income. These include such items as:

(1) The fiduciary's commissions for collection and disbursement of income.
(2) Legal fees paid in matters pertaining to the earning of income, as distinguished from matters pertaining to the preservation of the estate.
(3) Wages of clerks, and of workmen employed to care for the property.
(4) Costs of caring for and harvesting crops.
(5) Ordinary repairs to trust property.
(6) Interest accrued during the tenancy on mortgages and other liabilities.
(7) Insurance premiums (generally).
(8) Taxes on undistributed income accumulated for the benefit of the income beneficiary.

Repairs and betterments are classified in accordance with the usual accounting rule: ordinary repairs are chargeable to income; extraordinary repairs are chargeable to principal. Replacements and betterments may be apportioned, the portion which makes good wear and tear during the period of the trust being charged to income, and the balance being charged to principal. Although this last-mentioned rule is not difficult to state, it is often very difficult to apply.

Special assessments for local benefits may be paid out of principal if the benefits are expected to add lasting value; otherwise, they should be paid out of income. In some cases a portion may be paid from principal and the remainder from income.

Mortgages and other investments may become delinquent, and for this and other reasons the amount received in liquidation and settlement after foreclosure thereof may be less than the sum of the original value of the investment, the expenses incurred in attempting to preserve and collect the investment, and the uncollected income. Such receipts are generally apportioned between

principal and income so that the loss occasioned by the salvage operation will be shared by the income beneficiary and the remainderman without entirely depriving the life tenant of his income during the barren period.

Questions of impairment. If the trust property includes wasting assets (for example, such natural resources as mines, quarries, oil wells and timber, or such other types as leaseholds and copyrights), or assets subject to depreciation (such as a building), the fiduciary must consider whether a portion of any receipts therefrom should be regarded and retained as principal, in order to prevent the impairment of the trust corpus. The intention of the decedent is controlling in these cases and must be sought out carefully. If it appears that the testator intended to give the full, undiminished income to the income beneficiary even though the principal would thereby ultimately be completely exhausted, no deduction from income for the depletion or depreciation factor is permitted. If, however, the express or implied intention to preserve the principal intact appears, the fiduciary is required to retain out of the income such an amount as will be sufficient to maintain the integrity of the original investment.

The same rules apply to income derived from similar investments held in corporate form—for instance, stock in a corporation engaged in exploiting a wasting asset.

Extraordinary repairs are payable from corpus. Permanent improvements to trust property generally are payable out of corpus; improvements made solely for the purpose of increasing the income-producing power of the property are chargeable to income unless there is strong justification for an apportionment.

Any losses or gains on the realization of assets forming a part of the principal are generally considered to be applicable to principal. The principal of the estate is composed of the assets left by the decedent, or whatever these assets ultimately realize.

In accordance with this general theory, if bonds left by the decedent are inventoried at a premium, turned over to a trustee, and held by him until maturity, there will be a book loss of the difference between the inventory value and par. But this loss is to be borne by principal, for the principal is not considered to be impaired if it contains the actual assets left by the decedent, or the proceeds of these assets.

Similarly, if bonds left by the decedent are inventoried at a discount, the income beneficiary is not entitled to any income representing accumulation of discount; any discount realized at maturity, or upon disposition of the bonds, is regarded as an ordinary gain to be added to the corpus.

With respect to bonds purchased by the fiduciary at a premium or a discount, any desire with respect to amortization expressed by the testator will govern. In the absence of any such expressed desire, it has been held generally that premiums should be amortized, but that discounts should not be; there is, however, a strong minority opinion that discounts also should be amortized. In the determination of the amount of any premium or discount, brokerage fees should be regarded as part of the cost of the investment. Amortization, when required, may be made by either the straight-line method or an effective yield method. If bonds purchased at a premium are disposed of before maturity and the unamortized portion of the premium is not realized, the loss is generally chargeable to corpus; similarly, a gain would be credited to principal.

The right to subscribe for stock is inherent in the stock, which is corpus; if, instead of exercising the rights, the fiduciary sells them, the estate's interest in the corporation is diluted by reason of the reduction of its percentage of stock ownership; therefore, all receipts from the sale of subscription rights, including any gain, should be regarded as principal.

Fiduciary's Accounts

Accounting for the estate principal. The function of estate or trust accounting differs fundamentally from that of commercial or industrial accounting. Commercial or industrial accounting is based on the equation:

$$\text{Assets} = \text{Liabilities} + \text{Owners' Equity}$$

The books of an industrial concern are kept in such a manner as to show the amounts of, and the changes in, these three elements of financial condition.

A fiduciary is placed in possession of certain assets, and his records should show how he has discharged his accountability for them. His accounts, therefore, are based on the following fundamental equation:

$$\text{Assets} = \text{Accountability}$$

The books of an executor or administrator are opened by debiting asset accounts with the valuations shown by the inventory, and crediting a fiduciary accountability account called Estate Corpus or Estate Principal. Liabilities are not recorded until the fiduciary pays them, thus reducing the total assets for which he is accountable. Enough asset accounts should be kept to classify

the property adequately. In a small estate, it may be sufficient to keep the asset accounts in one ledger; in a large estate, it may be desirable to maintain controlling accounts in the general ledger, with detailed accounts in subsidiary ledgers. In general, it is desirable to keep separate accounts with assets included in the inventory and with similar assets purchased by the fiduciary; for one reason, the nature of the fiduciary's responsibility for losses on assets purchased by him is somewhat different from his responsibility for the difference between the inventory valuation of assets left by the decedent and the amount ultimately realized therefrom; also, bonds included in the inventory and those acquired by the fiduciary may be subject to different amortization procedures.

The fiduciary's accountability is increased if additional assets are discovered after the original inventory is completed; any such subsequently discovered assets should be reported in a supplementary inventory, and should be recorded at their value as of the date of death by debiting asset accounts and crediting an account called Assets Subsequently Discovered. This is an accountability account, and is a supplement to the Estate Corpus account; it is desirable to set up the separate account because the executor, when making his report to the court, should show under separate headings the amount of accountability represented by the original inventory and the amount represented by assets subsequently discovered.

The executor's accountability as to corpus is also increased by any gains on the disposal of assets, because gains increase the total assets of the estate; his accountability is decreased by losses. When an asset is disposed of, the asset account should be credited with the carrying value; gains should be credited to a Gain on Realization account, and losses should be charged to a Loss on Realization account. Such gains and losses may be recorded in the journal, or special columns may be provided for them on the receipts side of the cash book.

The executor's accountability is also decreased by the payment of funeral and administration expenses. These may be charged to a single Funeral and Administration Expense account if there are only a few expenditures of this nature. If the executor is required to distinguish, for accounting purposes, between funeral expenses and administration expenses, it may be advisable in a large estate to open separate Funeral Expense and Administration Expense accounts; and if there are enough expenditures of this nature to warrant doing so, separate accounts may be kept with various classes of administration expenses.

The executor's accountability is also decreased (or, expressed more precisely, discharged) by the payment of liabilities incurred by the decedent. No entry should be made for liabilities until they are paid, thus effecting a decrease in the executor's accountability; when a liability is paid, an entry should be made debiting Debts of Decedent Paid (an accountability account) and crediting Cash. The charges to the Debts of Decedent Paid account should show, in each instance, the name of the creditor. If there are many creditors, it may be desirable to treat the Debts of Decedent Paid account as a controlling account, and to charge the individual liability payments to subsidiary accounts, such as Debts of Decedent Paid—John Brown.

The executor's accountability is also decreased by the payment of legacies. If there are only a few legacies, one account entitled Legacies may suffice. If there are numerous legacies, it may be desirable to use several accounts. If there are a great many legacies, or if inheritance taxes are to be charged against the legacies, or if legacies are to be abated in order to pay debts, an account should be kept with each legatee, either in the general ledger or in a subsidiary ledger.

Entries in legacy accounts are illustrated below:

Legacy—John Doe
    Cash
  Payment of inheritance tax.

Cash
    Legacy—John Doe
  Refund from Doe for inheritance tax paid.

Legacy—John Doe
    Bonds of *X Y* Company
  Delivery of legacy to Doe.

The will may direct that the total inheritance tax shall be paid by the estate, thus reducing the residuary legacy.

The accounts with Assets Subsequently Discovered, Gain on Realization, Loss on Realization, Funeral and Administration Expense, Debts of Decedent Paid, and Legacies are temporary accountability accounts set up to provide information required for the executor's report to the court; after they have served their purpose, they are closed to the Estate Corpus account, generally after the fiduciary's report is accepted.

Accounting for estate income. All of the income of a small estate may be credited to a single Income account; in a large estate, it is preferable to open separate accounts with the various classes of income, such as Interest Income and Dividend Income.

All expenses deductible from income may be charged to one

account called Expense—Income; or separate accounts may be kept with various kinds of expense.

If cash collected as income is paid to beneficiaries, the charges should be made to an account called Distributions to Income Beneficiaries. If desired, a separate account may be kept with each beneficiary to whom distributions are made.

Summary of estate accounts. As indicated above, a fiduciary's accounts should show the assets and accountability as to corpus, and the assets and accountability as to income. The trial balance on page 270 is assumed to have been prepared from the accounts of an executor of an estate involving a trust before his final statement to the court was prepared and his books were closed.

Principal and income cash. A fiduciary should keep his records in such a manner as to distinguish between principal cash and income cash. A form of cash book which accomplishes this purpose is illustrated later in the chapter.

Separate bank accounts may be kept with principal cash and income cash, or both may be deposited in one account; if the latter procedure is followed, the amounts applicable to principal and income can be determined from the balances of the Cash—Principal and Cash—Income accounts in the ledger.

Illustration of Fiduciary Accounting

A hypothetical case will be used in the remainder of this chapter and in the following chapter to illustrate:

- The entries made in an executor's accounts.
- The statements prepared by the executor.
- The transfer of trust assets from the executor to a testamentary trustee, involving:
  - The closing of the executor's books.
  - The opening of the trustee's books.

George Henderson died on March 31, 1960, leaving a will in which he named W. C. Turner as executor and trustee, without bond, and in which he disposed of his property as follows:

- Household furniture and $10,000 in cash to his widow.
- Stock of *X. Y.* Co., amounting to $1,000, to W. C. Turner, in lieu of fees as executor and trustee.
- All of the remaining property in trust, the income to be paid to his widow during her life, and at her death the principal to be paid to the Carmody Foundation.

ACCOUNTS AS TO PRINCIPAL:

	Debit	Credit
Accountability Accounts:		
Estate corpus		81,050
(The original amount for which the executor was accountable, as shown by the inventory.)		
Assets subsequently discovered		450
(Increase in accountability resulting from discovery of additional assets.)		
Gain on realization		500
(Increase in accountability representing excess of amount realized for assets over carrying value per inventory.)		
Loss on realization	300	
(Decrease in accountability resulting from losses on asset disposals.)		
Funeral and administration expense	535	
(Decrease in accountability resulting from disposal of assets in payment of expenses.)		
Debts of decedent paid	3,360	
(Decrease in accountability resulting from payment of debts.)		
Legacies—Mary Henderson	13,000	
Legacy—W. C. Turner	1,000	
(Decreases in accountability resulting from payments to legatees.)		
(The net credit balance of the foregoing accounts is $63,805, representing the executor's accountability for the remaining corpus assets.)		
Asset Accounts (Remaining assets, totaling $63,805, for which the executor is still accountable):		
P. Q. Co. stock	10,000	
S. T. Co. bonds	25,000	
L. M. Co. bonds	5,000	
Cash—principal	23,805	
Total balances of accounts as to principal	82,000	82,000

ACCOUNTS AS TO INCOME:

	Debit	Credit
Accountability Accounts:		
Income (One or several accounts)		4,525
(The gross amount for which the executor has assumed accountability to the income beneficiaries.)		
Expense—income (One or several accounts)	250	
(Decrease in accountability as to income, resulting from payment of expenses applicable to income.)		
Distributions to income beneficiaries	500	
(Decrease, or discharge, of accountability, resulting from distributions to income beneficiaries.)		
(The net credit balance of $3,775 in these accounts reflects the executor's accountability for the following income assets.)		
Asset Accounts (Remaining income assets, totaling $3,775, for which the executor is still accountable):		
Accrued interest receivable	450	
Dividends receivable	500	
Cash—income	2,825	
Total balances of accounts as to income	4,525	4,525
Total balances of all accounts, combined	86,525	86,525

The executor was directed to dispose of the patents and include the proceeds in the trust fund. Amortization prior to disposal was not to be charged against income.

Below and on the following pages is a list of events, with an indication of the books used to provide a record of such events.

The cash books have been presented in skeleton form, the purpose being merely to indicate the accounts to be debited and credited. To meet the requirements of the reports to be rendered, the cash records may show the names of persons from whom cash was received and to whom it was paid. The cash disbursements book should be provided with a check number column, and both books would normally have ledger folio columns. And, by providing sufficient columns, it would be possible to record on a single line each of several transactions which have required two lines in the illustrative records.

Recorded Event No.	Books	Dates	Events
		April 11	The will was admitted to probate, and letters testamentary were issued to W. C. Turner.
1	J.—C.R.	" 15	The executor filed the following inventory with the court:

Cash	$ 700
Life insurance policies payable to estate	20,000
X. Y. Co. stock	1,000
S. T. Co. bonds, 6%; interest payable Feb. 1 and Aug. 1	25,000
Accrued interest on *S. T.* Co. bonds	250
P. Q. Co. stock—100 shares	10,000
Dividend declared on March 10 on *P. Q.* Co. stock, payable April 30	600
Patents	19,000
Household furniture	3,000
Automobile	1,500
	$81,050

(Exempt property set aside for the widow is not included in the inventory.)

Recorded Event No.	Books	Dates	Events
2	C.R.	" 20	The executor collected the $20,000 life insurance policies.
3	C.R.	" 30	Collected the $600 dividend on the *P. Q.* Co. stock.

Recorded Event No.	Books	Dates	Events
4	C.D.	April 30	The executor purchased $5,000 of *L. M.* Co. 6% bonds, F. & A. at par and accrued interest in the amount of $75.
5	C.D.	May 20	Paid funeral expenses, $300.
6	C.R.	June 6	Sold the automobile for $1,200.
7	C.R.	" 15	Discovered a savings bank account with a balance of $450. Withdrew this balance and deposited it in the estate checking account.
8	C.D.	July 11	Paid personal property taxes assessed prior to the testator's death, $260.
9	C.R.	Aug. 1	Collected a $30 dividend on *X. Y.* Co. stock. The stock is a specific legacy and the dividend will go to the legatee.
10	C.R.	" 1	Collected $750 interest on the *S. T.* Co. bonds.
11	C.R.	" 1	Collected $150 interest on the *L. M.* Co. bonds.
12	C.D.	" 5	Paid $500 to the widow out of income.
13	J.	Sept. 10	A dividend of $500 was declared on the *P. Q.* Co. stock, payable November 5.
14	C.R.	" 15	Collected royalties on patents, $3,000.
15	C.D.	" 30	Paid legal fees incident to collection of royalties, in the amount of $250.
16	C.R.	Oct. 1	Sold the patents for $19,500.
17	C.D.	" 10	Paid all liabilities filed against the estate, as follows: John Smith .... $1,000; Wm. Green .... 2,100; Total $3,100
18	C.D.	" 12	Paid administration expense, $235.

Recorded Event No.	Books	Dates	Events
19	J.	Oct. 15	The executor turned over the household furniture to the widow as a legacy.
20	C.D.	" 18	The executor paid the widow $10,000 in cash as a legacy.
21	J.—C.D.	" 20	The executor took the *X. Y.* Co. stock and the $30 dividend collected on August 1, in settlement of his legacy.
22	J.	" 31	The executor recorded the accrued interest on the *S. T.* Co. bonds and the *L. M.* Co. bonds. (Since there is no change in the income beneficiary at this date, the transfer from executor to trustee could have been made without recording income accruals.)

The student is advised to post the following cash book and journal entries to skeleton ledger accounts, and compare the balances with those shown in the following trial balance.

ESTATE OF GEORGE HENDERSON
W. C. TURNER, EXECUTOR
Trial Balance
October 31, 1960

(Before making executor's report to court and before closing his books)

Estate corpus		81,050
Assets subsequently discovered		450
Gain on realization		500
Loss on realization	300	
Funeral and administration expense	535	
Debts of decedent paid	3,360	
Legacies—Mary Henderson	13,000	
Legacy—W. C. Turner	1,000	
P. Q. Co. stock	10,000	
S. T. Co. bonds	25,000	
L. M. Co. bonds	5,000	
Cash—principal	23,805	
Income		4,525
Expense—income	250	
Distributions to income beneficiary	500	
Accrued interest receivable	450	
Dividends receivable	500	
Cash—income	2,825	
	86,525	86,525

Executor's Cash Receipts

Date	Account Credited	Explanation	Principal: Credit Amount	Principal: Loss	Principal: Gain	Principal: Cash	Income Cash
1960							
(1) Apr. 15	Estate corpus	Cash per inventory	700			700	
(2) 20	Life insurance policies	Collected	20,000			20,000	
(3) 30	Dividends receivable	On *P. Q.* Co. stock	600			600	
(6) June 6	Automobile	Sold	1,500	300		1,200	
(7) 15	Assets subsequently discovered	Savings bank account	450			450	
(9) Aug. 1	Legacy—W. C. Turner	Dividend on *X. Y.* Co. stock	30			30	
(10) 1	Accrued interest receivable	*S. T.* Co. bonds to March 31	250			250	
(10) 1	Income	*S. T.* Co. bond interest since March 31					500
(11) 1	Accrued interest receivable	*L. M.* Co. bonds to April 30	75			75	
(11) 1	Income	*L. M.* Co. bond interest since April 30					75
(14) Sept. 15	Income	Royalties on patents					3,000
(16) Oct. 1	Patents	Sold	19,000		500	19,500	
			42,605	300	500	42,805	3,575

Executor's Cash Disbursements

Date	Account Debited	Explanation	Principal	Income
1960				
(4) Apr. 30	*L. M.* Co. bonds, 6%, F. & A.	Bonds purchased at par	5,000	
(4) 30	Accrued interest receivable	Purchased on *L. M.* Co. bonds	75	
(5) May 20	Funeral and administration expense	Funeral expenses	300	
(8) July 11	Debts of decedent paid	Personal property taxes	260	
(12) Aug. 5	Distributions to income beneficiary	Payment to widow		500
(15) Sept. 30	Expense—income	Legal fees re. royalties		250
(17) Oct. 10	Debts of decedent paid	John Smith	1,000	
(17) 10	Debts of decedent paid	Wm. Green	2,100	
(18) 12	Funeral and administration expense	Administration expense	235	
(20) 18	Legacies—Mary Henderson		10,000	
(21) 20	Legacy—W. C. Turner	Dividend on *X. Y.* Co. stock	30	
			19,000	750

Executor's Journal

	1960			
(1)	Apr. 15 as of Mar. 31	Life insurance policies	20,000	
		X. Y. Co. stock	1,000	
		S. T. Co. bonds, 6% (F. & A.)	25,000	
		Accrued interest receivable	250	
		P. Q. Co. stock	10,000	
		Dividends receivable	600	
		Patents	19,000	
		Household furniture	3,000	
		Automobile	1,500	
		Estate corpus		80,350
		Assets, per inventory.		
(13)	Sept. 10	Dividends receivable	500	
		Income		500
		Dividend declared on *P. Q.* Co. stock, payable Nov. 5.		
(19)	Oct. 15	Legacies—Mary Henderson	3,000	
		Household furniture		3,000
		Satisfaction of specific legacy.		
(21)	20	Legacy—W. C. Turner	1,000	
		X. Y. Co. stock		1,000
		Specific legacy. See cash book entry for dividend.		
(22)	31	Accrued interest receivable	450	
		Income		450
		3 months' interest on *S. T.* Co. bonds $375		
		3 months' interest on *L. M.* Co. bonds 75		
		Total $450		

In connection with the recording of declared dividends and accrued interest, it should be realized that the cash basis of accounting usually is satisfactory until the executor makes his final accounting, and even then it is acceptable unless the recording of accruals is necessary in order to effect an equitable distribution. In this illustration it would not be essential; the accruals are set up merely to indicate the procedure, which is permissible even though not necessary.

CHAPTER FIFTEEN

Estates and Trusts (Concluded)

Fiduciary's report to the court. The exact form of the statements to be rendered by a fiduciary is generally prescribed by the forum to which they are presented. The requirements vary considerably in the several states. It seems impracticable to attempt to describe the forms used in all of the states. The charge and discharge statements illustrated in this chapter, together with a transcript or summary of the cash records, will serve the requirements of examination candidates and will indicate the nature of the *information* generally required to be submitted by a fiduciary; the presentation of the information in the *form* prescribed is largely a matter of mechanics.

Charge and discharge statement as to principal. In the "I Charge Myself" section of the statement on the following page, the executor summarizes and totals the elements for which he is charged with accountability; in the "I Credit Myself" section, he indicates the decreases in, and discharges of, accountability. The balance shows the amount for which he still is accountable.

ESTATE OF RICHARD ROE
JOHN DOE, EXECUTOR
Charge and Discharge Statement as to Principal
Period Covered

I Charge Myself With:		
Assets per inventory (Schedule *A*)		$ xxxx
(The total of the assets listed in the inventory should agree with the credit balance of the Estate Corpus account.)		
Assets subsequently discovered (Schedule *B*)		xxx
(The total of this schedule should agree with the credit balance of the Assets Subsequently Discovered account.)		
Gain on assets realized (Schedule *C*)		xx
(This schedule should describe the property sold, and should have four money columns, to show carrying or appraised value, price realized, gain on realization, and loss on realization. The total of the Gain column is the amount to insert in the charge and discharge statement at this point, and it should agree with the balance of the Gain on Realization account.)		
Total charges		$xxxxx
(This total shows the amount of the principal or corpus for which the fiduciary must account. He accounts for the total in the manner shown below.)		
I Credit Myself With:		
Loss on assets realized (Schedule *C*)	$ xx	
(See explanation of this schedule above. The amount shown here will be the total of the Loss column of Schedule *C*.)		
Funeral and administration expense (Schedule *D*)	xxx	
(This schedule will consist of an analysis of the account of the same title in the ledger.)		
Debts of decedent paid (Schedule *E*)	xxx	
(This schedule will contain a list of the debts paid, as shown by the ledger.)		
Legacies paid or delivered (Schedule *F*)	xxx	
(This schedule should show the total legacies, the inheritance taxes paid thereon, if any, and payments or deliveries to legatees.)		
Total credits		xxxx
Balance (Schedule *G*)		$ xxx
(This schedule should show the assets belonging to the corpus of the estate, still in the fiduciary's possession, and should agree with the total of the balances of the open asset accounts.)		

Charge and discharge statement as to income. The charge and discharge statement as to income will contain information as indicated below:

ESTATE OF RICHARD ROE
JOHN DOE, EXECUTOR
Charge and Discharge Statement as to Income
Period Covered

I Charge Myself With:		
(List all income earned since the decedent's death, classified as interest, dividends, etc. This item may be supported by a schedule showing the names of the parties from whom the income was received, the dates of the transactions, etc. The total should agree with the balance of the Income account.)		$xxx
Total charges		$xxx
I Credit Myself With:		
Expenses chargeable to income	$xx	
(This amount should agree with the balance of the Expense—Income account; it may be supported by a schedule showing names of payees, dates of disbursements, etc.)		
Distributions to income beneficiaries	xx	
(This amount should agree with the balance of the account with the same title. A supporting schedule may show names, dates, and amounts of individual distributions.)		
Total credits		xxx
Balance		$ xx

If all of the assets have been distributed, or if the residue of the estate has been transferred to a trustee, the charges and credits in the statements will be equal and the charge and discharge statements will show no balances.

If a testamentary trust is not created and the principal and income go to the same beneficiary, the separation of principal and income in the accounts and statements of an executor may not be of great significance, and the report to the court may be made in one charge and discharge statement instead of separate statements.

Illustration continued. The following statements and closing entries are based on the accounts of the estate of George Henderson.

The transactions, books of original entry, and trial balance are shown in the preceding chapter.

Statements. The charge and discharge statements and the schedules supporting the charge and discharge statement as to principal are shown on the two following pages. The illustrative schedules are presented in skeleton form; more descriptive data are usually included, and the statements are usually signed by the parties making the accounting.

ESTATE OF GEORGE HENDERSON
W. C. TURNER, EXECUTOR
Charge and Discharge Statement as to Principal
March 31, 1960 to October 31, 1960

I Charge Myself With:		
Assets per inventory (Schedule *A*)	$81,050	
Assets subsequently discovered (Schedule *B*)	450	
Gain on realization (Schedule *C*)	500	
Total charges		$82,000
I Credit Myself With:		
Loss on realization (Schedule *C*)	$ 300	
Funeral and administration expense (Schedule *D*)	535	
Debts of decedent paid (Schedule *E*)	3,360	
Legacies paid or delivered (Schedule *F*)	14,000	
Total credits		18,195
Balance as to Principal		$63,805
Consisting of:		
P. Q. Co. stock	$10,000	
S. T. Co. bonds	25,000	
L. M. Co. bonds	5,000	
Cash	23,805	
Total	$63,805	

Inventory of Assets — Schedule *A*
March 31, 1960

Cash	$ 700
Life insurance policies	20,000
X. Y. Co. stock	1,000
S. T. Co. bonds	25,000
Accrued interest on *S. T.* Co. bonds	250
P. Q. Co. stock	10,000
Dividend declared on *P. Q.* Co. stock	600
Patents	19,000
Household furniture	3,000
Automobile	1,500
Total	$81,050

Assets Subsequently Discovered — Schedule *B*

Savings bank account	$ 450

Assets Realized — Schedule *C*

	Carrying Value	Price Realized	Gain	Loss
Life insurance policies	$20,000	$20,000		
Dividends receivable on *P. Q.* Co. stock	600	600		
Accrued interest on *S. T.* Co. bonds	250	250		
Patents	19,000	19,500	$500	
Automobile	1,500	1,200		$300
Total	$41,350	$41,550	$500	$300

Funeral and Administration Expense — Schedule *D*

Funeral expenses	$ 300
Administration expense	235
Total	$ 535

Debts of Decedent Paid	Schedule *E*
John Smith	$ 1,000
Wm. Green	2,100
Personal property taxes	260
Total	$ 3,360

Legacies Paid or Delivered		Schedule *F*
Mary Henderson:		
Household furniture	$ 3,000	
Cash	10,000	$13,000
W. C. Turner:		
X. Y. Co. stock		1,000
And $30 dividend thereon		
Total		$14,000

ESTATE OF GEORGE HENDERSON
W. C. TURNER, EXECUTOR
Charge and Discharge Statement as to Income
March 31, 1960 to October 31, 1960

I Charge Myself With:			
Interest on *S. T.* Co. bonds:			
Collected, August 1	$750		
Less accrued at date of death, March 31	250	$ 500	
Accrued, August 1 to October 31		375	$ 875
Interest on *L. M.* Co. bonds:			
Collected, August 1	$150		
Less accrued at purchase, April 30	75	$ 75	
Accrued, August 1 to October 31		75	150
Dividend on *P. Q.* Co. stock:			
Declared but not collected			500
Royalties on patents			3,000
Total charges			$4,525
I Credit Myself With:			
Expenses applicable to royalties		$ 250	
Distribution to income beneficiary—widow		500	
Total credits			750
Balance as to Income			$3,775
Consisting of:			
Dividends receivable:			
Declared on *P. Q.* Co. stock		$ 500	
Accrued interest:			
On *S. T.* Co. bonds		375	
On *L. M.* Co. bonds		75	
Cash		2,825	
Total		$3,775	

Closing the executor's books. After the executor has rendered his final report to the court, his books should be closed. If all of the assets have been distributed to the beneficiaries, the asset accounts will have no balances, and only the accountability accounts will remain open.

The executor's accountability accounts should be closed in the following manner:

Corpus accountability accounts:

Close to Estate Corpus account the Assets Subsequently Discovered and Gain on Realization accounts showing increases in the executor's accountability, and the Loss on Realization, Funeral and Administration Expense, Debts of Decedent Paid, and Legacy accounts showing decreases in his accountability.

Income accountability accounts:

Close to Undistributed Income the income account (or accounts), the expense account (or accounts) applicable to income, and the Distributions to Income Beneficiaries account.

If, as in the illustration of the estate of George Henderson, assets remain for transfer to a trustee (W. C. Turner is also trustee), balances will remain in asset and accountability accounts after the entries indicated above are made. These asset and accountability accounts should be closed to an account with the trustee, thus completing the closing of the books.

Following are the journal entries to close the accounts of W. C. Turner as executor of the estate of George Henderson.

Executor's Journal

1960			
Nov. 1	Assets subsequently discovered	450	
	Gain on realization	500	
	Estate corpus		950
	To close accountability accounts showing increases in corpus.		
1	Estate corpus	18,195	
	Loss on realization		300
	Funeral and administration expense		535
	Debts of decedent paid		3,360
	Legacies—Mary Henderson		13,000
	Legacy—W. C. Turner		1,000
	To close accountability accounts showing decreases in corpus.		
1	Income	4,525	
	Undistributed income		4,525
	To close the Income account.		
1	Undistributed income	750	
	Expense—income		250
	Distributions to income beneficiary		500
	To close accountability accounts showing charges against income.		

Executor's Journal—Continued

Nov. 1	Estate corpus	63,805	
	Undistributed income	3,775	
	W. C. Turner, trustee		67,580
	To close the two accountability accounts by transfer to the trustee.		
1	W. C. Turner, trustee	40,000	
	P. Q. Co. stock		10,000
	S. T. Co. bonds		25,000
	L. M. Co. bonds		5,000
	To record the transfer to the trustee of corpus assets other than cash.		
1	W. C. Turner, trustee	950	
	Dividends receivable		500
	Accrued interest receivable		450
	To record the transfer to the trustee of income assets other than cash.		

Executor's Cash Disbursements

1960			Principal	Income
Nov. 1	W. C. Turner, trustee	Transfer to trustee	23,805	2,825

The trustee's accounts. The general nature of the trustee's accounts is indicated below; it should be understood that the number of accounts and the desirability of using controlling accounts will depend upon the size and nature of the trust.

Accountability Accounts—Principal:
- Original accountability:
  - Trust principal
    - This account is credited with the original amount of the trust, and to it are closed periodically the following temporary accounts.
- Increases:
  - Gains on sales or other realizations
  - Increases recognized at distribution
    - This account is credited with any excess of the agreed value at which a beneficiary accepts a trust principal asset in distribution over the carrying value thereof.
- Decreases:
  - Losses on sales or other realizations
  - Decreases recognized at distribution
  - Expense accounts applicable to principal

Asset Accounts—Principal:
- The nature of the asset accounts will depend upon what assets are owned by the trust.

Accountability Accounts—Income:
- Accounts with interest, dividends, etc., or a single income account
- Expense accounts in such detail as required
- Gains on disposal of income assets
- Losses on disposal of income assets
- Accounts with income beneficiaries
  - These accounts are credited with the beneficiaries' distributive shares of income and are charged with any distributions to them.

Asset Accounts—Income:
- Cash
- Accrued interest receivable
- Accounts with any other assets pertaining to income

Liabilities will not normally exist, and therefore no accounts for them have been mentioned; if any must be recorded, accounts can be provided for them.

Illustration continued—Opening trustee's books. The following entries will open the accounts of W. C. Turner as trustee:

Trustee's Journal

1960			
Nov. 1	*P. Q.* Co. stock	10,000	
	S. T. Co. bonds	25,000	
	L. M. Co. bonds	5,000	
	Trust principal		40,000
	To record the principal assets, other than cash, at the inception of the trust.		
1	Dividends receivable	500	
	Accrued interest receivable	450	
	Income		950
	To record the income assets, other than cash, at the inception of the trust.		

Trustee's Cash Receipts Book

1960			Principal	Income
Nov. 1	Trust principal	From executor	23,805	
	Income	From executor		2,825

Trustee's reports. The trustee's periodical reports may be prepared in the charge and discharge form. The charges and credits shown therein are the credit and debit balances of the accounts in the trustee's ledger, as indicated by the list on page 282. Two statements should be prepared: one for principal and one for income.

Closing the trustee's books. The trustee's accounts should be closed periodically. The accounts showing increases and decreases in accountability as to principal should be closed to the Trust Principal account. The accounts showing increases and decreases in accountability as to income are closed to the accounts with the income beneficiaries.

CHAPTER SIXTEEN

Home Office and Branch Accounting

Agencies and branches. Agencies and branches both are means of projecting the sales organization into territory at a distance from the home office; but aside from this common feature, the agency and the branch differ very widely in organization, management, and control. The points of difference may be summarized as follows:

Agency	Branch
Carries a line of samples for inspection, but does not carry a full stock for making deliveries to customers. Orders are sent to the home office and deliveries are made by the home office.	Carries a stock of merchandise, most of which is usually obtained from the home office but part of which may be purchased from outsiders. Deliveries are made from the branch stock.
Credits passed on by the home office; receivables carried on the home office books; collections made by the home office.	Credits passed on by the branch; receivables carried on the branch books; collections made by the branch.
Working fund for agency expenses provided by the home office, and replenished by the home office when exhausted. No other cash handled by the agency.	Receipts from sales and collections deposited in bank to the credit of the branch; checks for expenses drawn by the branch.

It is evident from this summary that an agency exercises about the same functions as a traveling salesman, while the branch exercises most of the functions of an independent business, subject to the supervision and control of the home office.

The foregoing summary is descriptive of the true agency and the true branch, but extensions may be made whereby the agency is vested with some of the powers of a branch. For instance, the agency may carry a stock of merchandise and make deliveries, although credits are passed on by the home office and the accounts receivable are carried on the home office books.

On the other hand, some restrictions may be placed on a branch. For instance, although the branch may be allowed to pass on its own credits, the accounts may be carried on the home office books. A very common restriction has to do with cash. The branch may be required to deposit all receipts from sales and all collections in a bank account in the name of the home office, subject to check by the home office only; a working fund for expenses is then provided from the home office by a deposit in a separate bank account which may be drawn against by the branch, and which is replenished by another check from the home office.

Thus, in addition to true agencies and true branches, other establishments exist having some of the characteristics of both—agencies exercising some of the functions of branches, and branches subject to some of the restrictions which apply to agencies. It is neither practicable nor necessary to consider here all of the variations from the true agency and the true branch. The accounting methods used by the typical agency and the typical branch will be illustrated, and it will be understood that, if an agency exercises some of the functions of a branch, or if a branch is subject to some restrictions which usually apply only to agencies, their accounting systems will necessarily be modified to suit the conditions.

Agency accounts. An agency does not need to keep a double-entry system of accounts. All that is necessary is a cash book in which to record money received from the home office for its working fund, and the disbursements made therefrom for expenses. The disbursement record is usually kept in duplicate. When the working fund runs low and a replenishing check is desired, one copy of the disbursement sheet is sent to the home office, together with the vouchers, as evidence of the nature and propriety of the disbursements, and the other copy is retained by the agency.

The entries made by the home office will depend on whether the management desires to determine the net income of the agency. Illustrative entries on the home office books are shown on pages 286 and 287.

HOME OFFICE ENTRIES

Agency Net Income to Be Determined			Agency Net Income Not to Be Determined		
(1) Samples costing $1,000 sent to agency:					
Agency samples (Asset account)	1,000		Agency samples	1,000	
Shipments to or for agency		1,000	Shipments to or for agency		1,000
(The Shipments To or For Agency account should be closed to Revenue and Expense to avoid overstating the cost of goods sold by the home office.)					
(2) Working fund of $500 established:					
Agency working fund	500		Agency working fund	500	
Cash		500	Cash		500
(3) Sales of $10,000 reported by the agency and delivered by the home office:					
Accounts receivable	10,000		Accounts receivable	10,000	
Agency sales		10,000	Sales		10,000
(Any losses arising from uncollectible agency accounts receivable should be segregated from losses on other receivables if agency net income is to be determined.)					
(4) Cost of agency sales, $7,000:					
Cost of agency sales	7,000				
Shipments to or for agency		7,000			
(This entry may be made at the end of the period for the total cost of agency sales, but a memorandum record must be kept during the period when					

sales orders are filled. This record will furnish the information for the above entry at the end of the period.)

(5) When the agency reports its cash disbursements for expenses, the home office issues a check to the agency to replenish its working fund and makes an entry similar to the following:

Agency expenses (Detailed as desired)	1,400		Expenses (Detailed as desired)	1,400	
Cash		1,400	Cash		1,400

(6) Any expenses paid for the agency by the home office:

Agency expenses (Detailed as desired)	300		Expenses (Detailed as desired)	300	
Cash		300	Cash		300

(7) Entry to close the accounts showing agency net income:

Agency sales	10,000	
Cost of agency sales		7,000
Agency expenses		1,700
Revenue and expense		1,300

Branch accounts. The accounting for a branch is more complex. The branch keeps a complete set of books in which to record goods received from the home office and purchased from outsiders, sales, accounts receivable, accounts payable, and expenses. The ledger contains an account called Home Office Current, which is credited with everything received from the home office and charged with everything sent to the home office. The Home Office Current account is thus a proprietorship account, showing the investment made by the home office in the branch. When the branch closes its books, a net income is transferred from Revenue and Expense by a credit to the Home Office Current account to show the increase in the branch's accountability to the home office, while a net loss is transferred by a debit to the Home Office Current account.

The methods used by the home office depend, to some extent, on the price at which goods are billed to the branch. There are three typical methods of billing:

(1) Goods billed to the branch at cost.
    This is the simplest method.

(2) Goods billed to the branch at an arbitrary value between cost and selling price.
    This method is sometimes used in order to keep the branch manager in ignorance of the cost of goods sold and hence of the earnings of the branch.

(3) Goods billed to the branch at selling price.
    This method is based on the theory that, if the branch charges its merchandise accounts with the selling price of goods received and credits its merchandise accounts with sales at the same price, the net balance of the merchandise accounts on the books of the branch should represent the selling price of the goods on hand. In other words, this method is supposed to provide a perpetual inventory of branch merchandise at selling price, and thus furnish a check on the goods, which will prevent or detect carelessness or fraud. The method works well unless frequent changes are made in selling prices; if selling prices fluctuate frequently, it is necessary to make so many adjustments that the work involved usually outweighs the advantages.

Shipments at cost. Assume that the following transactions occurred:

(1) Cash sent to the branch, $500.
(2) Merchandise sent to the branch, $5,000.
(3) Merchandise purchased by the branch from outsiders on account, $1,000.
(4) Sales by the branch:

Cash	$2,000
On account	5,000

(5) Collections from accounts receivable, $4,200.
(6) Payments of accounts payable, $750.
(7) Expenses paid, $1,200.
(8) Cash sent to home office, $4,000.

The following journal entries show the accounts debited and credited by the home office and the branch:

	Branch Books			Home Office Books		
(1)	Cash	500		Branch current	500	
	Home office current		500	Cash		500
(2)	Shipments from h. o.	5,000		Branch current	5,000	
	Home office current		5,000	Shipments to branch		5,000
(3)	Purchases	1,000				
	Accounts payable		1,000			
(4)	Cash	2,000				
	Accounts receivable	5,000				
	Sales		7,000			
(5)	Cash	4,200				
	Accounts receivable		4,200			
(6)	Accounts payable	750				
	Cash		750			
(7)	Expenses	1,200				
	Cash		1,200			
(8)	Home office current	4,000		Cash	4,000	
	Cash		4,000	Branch current		4,000

The Home Office Current account on the branch books now has a credit balance of $1,500, and the Branch Current account on the home office books has a debit balance of $1,500.

Combined statements. Working papers for the combined statements are shown on pages 290 and 291.

The amounts shown in the home office trial balance (other than the balances of the Branch Current and Shipments to Branch accounts) are assumed.

First Illustration: Shipments Billed at Cost.

COMPANY A
Home Office and Branch
Combined Working Papers
For the Year Ended December 31, 1960

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Combined	
	Home Office		Branch					
Income Statement:								
Sales		18,000		7,000				25,000
Inventory—December 31, 1959	3,000						3,000	
Purchases	19,000		1,000				20,000	
Shipments from home office			5,000			5,000 A		
Shipments to branch		5,000			5,000 A			
Inventory—December 31, 1960		5,000		1,500				6,500
Expenses	2,700		1,200				3,900	
Totals	24,700	28,000	7,200	8,500				
Combined net income—down							4,600	
							31,500	31,500
Statement of Retained Earnings:								
Retained earnings—December 31, 1959		400						400
Combined net income—brought down								4,600
Retained earnings—December 31, 1960—down							5,000	
							5,000	5,000
Balance Sheet:								
Cash	3,200		750				3,950	
Accounts receivable	2,900		800				3,700	
Inventory—December 31, 1960	5,000		1,500				6,500	
Branch current	1,500					1,500 B		
Accounts payable		1,400		250				1,650
Home office current				1,500	1,500 B			
Capital stock		7,500						7,500
Combined retained earnings—brought down								5,000
	37,300	37,300	10,250	10,250	6,500	6,500	14,150	14,150

Computation of Home Office and Branch Net Income

Revenue and expense account totals—as above	24,700	28,000	7,200	8,500
Net income	3,300		1,300	
	28,000	28,000	8,500	8,500

Adjustments and Eliminations

A—Reciprocal shipments accounts.
B—Reciprocal current accounts.

The computation of the net income of the home office and the net income of the branch is not an essential element of the working papers, but it is a desirable one because it provides an additional check on the accuracy of the $4,600 shown as combined net income. It also shows the amount of the branch net income to be taken up on the home office books by the journal entry on page 292.

The following statements were prepared from the working papers.

COMPANY A
Income Statement
For the Year Ended December 31, 1960

Sales		$25,000
Deduct cost of goods sold:		
Inventory—December 31, 1959	$ 3,000	
Purchases	20,000	
Total	$23,000	
Inventory—December 31, 1960	6,500	16,500
Gross profit on sales		$ 8,500
Deduct expenses		3,900
Net income		$ 4,600

COMPANY A
Statement of Retained Earnings
For the Year Ended December 31, 1960

Retained earnings—December 31, 1959	$ 400
Net income	4,600
Retained earnings—December 31, 1960	$ 5,000

COMPANY A
Balance Sheet
December 31, 1960

Assets		Liabilities and Stockholders' Equity		
Cash	$ 3,950	Accounts payable		$ 1,650
Accounts receivable	3,700			
Inventory	6,500	Stockholders' equity:		
		Capital stock	$7,500	
		Retained earnings	5,000	12,500
	$14,150			$14,150

Closing entries. The closing entries on the branch books are:

Inventory—December 31, 1960	1,500	
Sales	7,000	
Shipments from home office		5,000
Purchases		1,000
Expenses		1,200
Revenue and expense		1,300
Revenue and expense	1,300	
Home office current		1,300

The closing entries on the home office books are:

Branch current	1,300	
Branch net income or loss		1,300
Inventory—December 31, 1960	5,000	
Sales	18,000	
Shipments to branch	5,000	
Branch net income or loss	1,300	
Inventory—December 31, 1959		3,000
Purchases		19,000
Expenses		2,700
Revenue and expense		4,600

Revenue and expense	4,600	
Retained earnings		4,600

Shipments at arbitrary billing—First year. To show the slight changes in accounting procedure and working paper preparation if the home office bills the branch at an arbitrary percentage above cost, we shall repeat the first illustration but shall now assume that the home office bills shipments to the branch at 10% above cost. The entries on the branch and home office books would be the same as in the first illustration (see page 289) with the exception of the entries (No. 2) for home office shipments to the branch. These entries would now be:

Branch Books			Home Office Books		
(2) Shipments from h. o.	5,500		Branch current	5,500	
Home office current		5,500	Shipments to branch —Cost		5,000
			Shipments to branch —Loading		500

The Branch Current account on the home office books will have a debit balance of $2,000, and the Home Office Current account will have a credit balance of $2,000.

In the working papers on pages 294 and 295, the $5,500 debit balance in the Shipments from Home Office (in the branch trial balance) is reciprocal to the sum of two accounts on the home office books: Shipments to Branch—Cost, $5,000 and Shipments to Branch—Loading, $500.

Shipments to Branch—Cost is shown in the Income Statement section of the working papers because it is a deduction from the home office opening inventory and purchases in the computation of the cost of goods sold by the home office.

Shipments to Branch—Loading is shown in the Balance Sheet section as a contra to the Branch Current account; the net of the balances of these two accounts is $1,500, the balance that would have been in the Branch Current account if shipments had been billed at cost.

The branch ending inventory, $1,650, is based on the home office billing prices. The inventory at cost is $1,650 ÷ 110%, or $1,500. Adjustment B effects the reduction for combined statement purposes.

Second Illustration: Shipments Billed at 110% of Cost—First Year.

COMPANY A
Home Office and Branch
Combined Working Papers
For the Year Ended December 31, 1960

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Combined	
	Home Office		Branch					
Income Statement:								
Sales		18,000		7,000				25,000
Inventory—December 31, 1959	3,000						3,000	
Purchases	19,000		1,000				20,000	
Shipments from home office			5,500			5,500 A		
Shipments to branch—Cost		5,000			5,000 A			
Inventory—December 31, 1960		5,000		1,650	150 B			6,500
Expenses	2,700		1,200				3,900	
Totals	24,700	28,000	7,700	8,650				
Combined net income—down							4,600	
							31,500	31,500
Statement of Retained Earnings:								
Retained earnings—December 31, 1959		400						400
Combined net income—brought down								4,600
Retained earnings—December 31, 1960—down							5,000	
							5,000	5,000
Balance Sheet:								
Cash	3,200		750				3,950	
Accounts receivable	2,900		800				3,700	
Inventory—December 31, 1960	5,000		1,650			150 B	6,500	
Branch current	2,000					2,000 C		
Shipments to branch—Loading		500			500 A			
Accounts payable		1,400		250				1,650
Home office current				2,000	2,000 C			
Capital stock		7,500						7,500
Combined retained earnings—brought down								5,000
	37,800	37,800	10,900	10,900	7,650	7,650	14,150	14,150

Computation of Home Office and Branch Net Income

Revenue and expense account totals—as above	24,700	28,000	7,700	8,650
Branch net income per books—down			950	
			8,650	8,650
Branch net income per books—brought down				950
Adjustments for loading:				
In shipments				500
In ending inventory			150	
Net income	3,300		1,300	
	28,000	28,000	1,450	1,450

Adjustments and Eliminations

A—Reciprocal shipments accounts.
B—Loading in branch ending inventory.
C—Reciprocal current accounts.

Statements. Since the amounts in the final columns of the working papers on page 294, showing the combined results, are the same as those in the working papers on page 290, the statements would be the same.

Closing entries. The closing entries on the branch books are shown below:

Inventory—December 31, 1960	1,650	
Sales	7,000	
Purchases		1,000
Shipments from home office		5,500
Expenses		1,200
Revenue and expense		950
Revenue and expense	950	
Home office current		950

The closing entries on the home office books are presented below:

Branch current	950	
Branch net income or loss		950
Shipments to branch—Loading	500	
Loading in branch inventory		150
Branch net income or loss		350
To apportion the balance in the Shipments to Branch—Loading account between the amount applicable to the December 31, 1960 inventory and the amount representing a correction of the branch net income per its books.		

(In any balance sheet prepared from the home office books alone, the $150 credit balance in the Loading in Branch Inventory account would be deducted from the debit balance in the Branch Current account; or the balance sheet may show only the net amount.)

Inventory—December 31, 1960	5,000	
Sales	18,000	
Shipments to branch—Cost	5,000	
Branch net income or loss	1,300	
Inventory—December 31, 1959		3,000
Purchases		19,000
Expenses		2,700
Revenue and expense		4,600
Revenue and expense	4,600	
Retained earnings		4,600

Shipments at arbitrary billing—Second year. In the preceding illustration, the branch had no opening inventory. To illustrate the treatment of a loading in an opening inventory of a branch, we shall continue the Company *A* illustration through 1961. The working papers are on pages 298 and 299. It is assumed that the branch inventory on December 31, 1961, as reported by the branch was $2,640, and that the inventory on a cost basis was

$2,640 ÷ 110%, or $2,400. The working paper procedure is similar to that in the preceding illustration, with two new features related to the loading in the opening inventory:

In the working papers, the $150 credit balance in the Loading in Branch Inventory account on the home office books is applied, by an adjustment, against the branch opening inventory of $1,650.

In the computation of the home office and branch net income, $150 opening inventory loading is added to the branch net income per books.

Closing entries. The closing entries on the branch books are shown below:

Inventory—December 31, 1961	2,640	
Sales	13,100	
Inventory—December 31, 1960		1,650
Shipments from home office		7,150
Purchases		3,000
Expenses		2,100
Revenue and expense		1,840
Revenue and expense	1,840	
Home office current		1,840

The closing entries on the home office books are presented below:

Branch current	1,840	
Branch net income or loss		1,840
To take up branch net income per branch books.		
Shipments to branch—Loading	650	
Loading in branch inventory		90
Branch net income or loss		560
To close the Shipments to Branch—Loading account; increase the Loading in Branch Inventory account from $150 (1960 amount) to $240 (1961 amount); and adjust the branch net income for loadings.		
Inventory—December 31, 1961	6,350	
Sales	23,600	
Shipments to branch—Cost	6,500	
Branch net income or loss	2,400	
Inventory—December 31, 1960		5,000
Purchases		22,280
Expenses		4,700
Revenue and expense		6,870
Revenue and expense	6,870	
Retained earnings		6,870
Retained earnings	1,000	
Dividends		1,000

Third Illustration: Shipments Billed at 110% of Cost—Second Year.

COMPANY A
Home Office and Branch
Combined Working Papers
For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Combined	
	Home Office		Branch					
Income Statement:								
Sales		23,600		13,100				36,700
Inventory—December 31, 1960	5,000		1,650			150 A	6,500	
Purchases	22,280		3,000				25,280	
Shipments from home office			7,150			7,150 B		
Shipments to branch—Cost		6,500			6,500 B			
Inventory—December 31, 1961		6,350		2,640	240 C			8,750
Expenses	4,700		2,100				6,800	
Totals	31,980	36,450	13,900	15,740				
Combined net income—down							6,870	
							45,450	45,450
Statement of Retained Earnings:								
Retained earnings—December 31, 1960		5,000						5,000
Combined net income—brought down								6,870
Dividends	1,000						1,000	
Retained earnings—December 31, 1961—down							10,870	
							11,870	11,870
Balance Sheet:								
Cash	5,700		2,200				7,900	
Accounts receivable	3,600		1,700				5,300	
Inventory—December 31, 1961	6,350		2,640			240 C	8,750	
Branch current	4,100					4,100 D		
Shipments to branch—Loading		650			650 B			
Loading in branch (opening) inventory		150			150 A			
Accounts payable		2,980		600				3,580
Home office current				4,100	4,100 D			
Capital stock		7,500						7,500
Combined retained earnings—brought down								10,870
	52,730	52,730	20,440	20,440	11,640	11,640	21,950	21,950

Computation of Home Office and Branch Net Income

Revenue and expense account totals—as above	31,980	36,450	13,900	15,740
Branch net income per books—down			1,840	
			15,740	15,740
Branch net income per books—brought down				1,840
Adjustments for loading:				
In opening inventory				150
In shipments				650
In ending inventory			240	
Net income	4,470		2,400	
	36,450	36,450	2,640	2,640

Adjustments and Eliminations

A—Loading in branch opening inventory.
B—Reciprocal shipments accounts.
C—Loading in branch ending inventory.
D—Reciprocal current accounts.

SHIPMENTS AT SELLING PRICE. When goods are billed to the branch at selling prices, the accounting procedures are the same as those shown in the preceding illustrations; however, instead of reducing the branch inventory from billed price to cost by a percentage computation based on a uniform rate of loading, different departmental loading rates may be applied or the cost of each branch inventory item may be separately computed.

Fixed assets. The fixed assets of a branch are usually carried on the home office books. If this method is followed, a purchase of fixed assets by the home office for the branch is recorded on the home office books by a debit to Branch Furniture and Fixtures (or other fixed asset account) and a credit to Cash. No entries will appear on the branch books. If the fixed assets are purchased by the branch, the entry on the branch books debits the Home Office Current account and credits Cash. The branch will report the purchase to the home office, and the home office will debit Branch Furniture and Fixtures (or other fixed asset account) and credit the Branch Current account.

Branch expenses on home office books. Some expenses applicable to the branch operations may appear on the home office books instead of on the branch books. For instance, if the fixed assets are carried on the home office books, the depreciation entries will be recorded on these books. After taking up the net income as shown by the branch, the home office should make an entry on its books debiting Branch Net Income or Loss and crediting Depreciation Expense.

If any of the home office expenses are to be apportioned in part to the branch, entries may be made debiting the Branch Net Income or Loss account and crediting the expense accounts. The balance of the Branch Net Income or Loss account will then represent the net income of the branch (if there is no loading in the home office billings to the branch), and this balance will be transferred to the general Revenue and Expense account.

Reconciliation of reciprocal accounts. The Branch Current account on the home office books and the Home Office Current account on the branch books are supposed to be reciprocal, but in actual practice this condition rarely exists, because entries made by the home office for remittances of cash and shipments of merchandise may not be taken up on the branch books until some time later, when the cash and merchandise are received; and because entries on the branch books for cash remitted to the home office may not be taken up by the home office for several days, while the cash is in transit.

Adjustments to bring the two current accounts into agreement should be made before the working papers are prepared. Any shipments made by the home office and not received by the branch at the closing date should be taken up on the branch books by a debit to Merchandise in Transit and a credit to Home Office Current. Any remittances made by the branch and not received by the home office at the closing date should be taken up on the home office books by debiting Cash in Transit and crediting the Branch Current account. Other necessary adjustments should be made in a similar manner.

Interbranch transfers. If merchandise is shipped from one branch to another, or if other assets are transferred between branches, the branch parting with the asset should debit the Home Office Current account and credit the asset. The branch receiving it should debit the asset and credit its Home Office Current account. The home office should debit the current account of the branch receiving the asset, and credit the current account of the branch parting with the asset. No branch should carry an account with any other branch; all interbranch transfers should be cleared through the home office current accounts.

Freight. Freight on goods received by the branch can properly be included in the branch inventory, on the basis of the same principles which apply to freight in. But if goods are shipped from one branch to another, the branch receiving the goods should include in the inventory valuation only such an amount of freight as would have been paid if the goods had been shipped directly from the home office; any excess freight should be recorded on the home office books as an expense.

To illustrate, assume that $500 worth of goods are shipped from the home office to Branch *A* at a freight cost of $25. These goods are reshipped by Branch *A* to Branch *B* at an additional freight cost of $20, which is paid by Branch *A*. If the goods had been shipped from the home office to Branch *B*, the freight cost would have been $30. The entries on the various books should be:

For shipment to Branch *A*:

Home office:		
Branch *A*	525	
Shipments to Branch *A*		500
Cash		25
Branch *A*:		
Shipments from home office	500	
Freight in	25	
Home office current		525

For shipment from Branch *A* to Branch *B*:

Branch *A*:		
Home office current	525	
Shipments from home office		500
Freight in		25
Home office current	20	
Cash		20
Branch *B*:		
Shipments from home office	500	
Freight in	30	
Home office current		530
Home office:		
Shipments to Branch *A*	500	
Shipments to Branch *B*		500
Branch *B* current	530	
Interbranch excess freight	15	
Branch *A* current		545

Branch records on home office books. The foregoing illustrations of branch and home office entries are based on the assumption that a detailed double-entry set of records is maintained by the branch. This is not always the case. Some companies prefer to have the branch make daily reports to the home office from which the records of sales, collections, purchases, expenses, and so on, can be made directly on the home office books. When this is done, the entries become similar to those discussed at the beginning of this chapter under the title of "Agency accounts"; whether or not the home office maintains a classified record of sales by branches and other records sufficient to permit the determination of gross and net profit by branches is purely a matter of preference to be determined by the management.

CHAPTER SEVENTEEN

Parent and Subsidiary Accounting

Consolidated Balance Sheet

Reasons for subsidiaries. If one company owns a controlling interest in another company as a result of stock ownership, a parent-and-subsidiary relationship exists. Some of the reasons why corporations acquire or organize subsidiaries are mentioned below:

Companies which produce required supplies, parts, and raw material may be acquired as subsidiaries in order to assure a steady flow thereof at a favorable price and without resort to outsiders.

The control of subsidiaries may reduce competition or produce a more advantageous coverage of the competitive field.

It is advisable to segregate operations which are subject to governmental control. For instance, a well-known manufacturing company has a subsidiary railroad company, which is subject to Interstate Commerce Commission regulations.

State income and other tax laws often make it desirable to organize subsidiaries to facilitate the determination of, and frequently to minimize, the amounts of taxes.

If a new venture is to be undertaken, a subsidiary may be organized to limit the capital at risk.

If a going concern is acquired, its name may have value.

A corporation may be able to acquire a controlling interest in another company by purchase of its stock, whereas it might be difficult or even impossible to obtain the necessary stockholder authorization for the sale of the company's assets.

In big, diversified businesses, the size of each unit may be so great as to require management by a separate group of directors and officers.

By acquiring only a controlling interest in the voting stock of a subsidiary, which may also have funds obtained by the issuance of nonvoting shares of other classes, the parent can extend its activities with a minimum investment.

An earning leverage can be obtained by the parent company if it holds common stock, and if part of the subsidiary's capital is represented by nonparticipating preferred stock.

Nature of a consolidated balance sheet. If a company operates an unincorporated branch, a combined balance sheet of the home office and the branch may be prepared. For instance, assume that Company *P* establishes an unincorporated branch to which it transfers $10,000 in cash and $20,000 in merchandise; it may prepare the following combined balance sheet working papers at the date of the establishment of the branch and the combined balance sheet on page 305.

COMPANY P
Home Office and Branch
Combined Balance Sheet Working Papers
July 31, 1960

Assets	Company *P*	Branch *S*	Adjustments and Eliminations		Combined	
Cash	25,000	10,000			35,000	
Accounts receivable	35,000				35,000	
Merchandise inventory	60,000	20,000			80,000	
Branch current	30,000			30,000 A		
	150,000	30,000				
Liabilities and Stockholders' Equity						
Accounts payable	40,000					40,000
Home office current		30,000	30,000 A			
Capital stock	100,000					100,000
Retained earnings	10,000					10,000
	150,000	30,000	30,000	30,000	150,000	150,000

In these working papers, the balances of the two reciprocal current accounts are eliminated because they represent mere intracompany relationships.

COMPANY P
Home Office and Branch
Balance Sheet
July 31, 1960

Assets		Liabilities and Stockholders' Equity		
Cash	$ 35,000	Accounts payable		$ 40,000
Accounts receivable	35,000			
Merchandise inventory	80,000	Stockholders' equity:		
		Capital stock	$100,000	
		Retained earnings	10,000	110,000
	$150,000			$150,000

Let us now assume that Company P, instead of establishing an unincorporated branch, organized a subsidiary called Company S, and that Company S issued capital stock of $30,000 par value to Company P in exchange for $10,000 in cash and $20,000 worth of merchandise. Company P becomes a parent company; Company S is a subsidiary.

Although parent and subsidiary companies are separate corporate entities, they constitute a single business organization, and it may be desired to prepare a consolidated balance sheet to show their combined assets and liabilities. The working papers for the consolidation of the balance sheets of Company P and its subsidiary, Company S (see page 306), are similar to those for the combined balance sheet of the home office and its branch, except for the difference in the names of the reciprocal accounts.

In the home office and branch illustration on page 304, the reciprocal accounts are:

Branch Current (On Home Office Books)		Home Office Current (On Branch Books)	
30,000			30,000

The reciprocal accounts on the parent and subsidiary books are:

Investment in Stock of Company S (On Parent's Books)		Capital Stock (On Subsidiary's Books)	
30,000			30,000

The reciprocal accounts of the parent and subsidiary are eliminated in the working papers on page 306 because they represent mere intercompany relationships.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
July 31, 1960

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Consolidated	
Cash	25,000	10,000			35,000	
Accounts receivable	35,000				35,000	
Merchandise inventory	60,000	20,000			80,000	
Investment in stock of Company *S* (100%)	30,000			30,000 A		
	150,000	30,000				
Liabilities and Stockholders' Equity						
Accounts payable	40,000					40,000
Capital stock:						
Company *P*	100,000					100,000
Company *S*		30,000	30,000 A			
Retained earnings	10,000					10,000
	150,000	30,000	30,000	30,000	150,000	150,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet
July 31, 1960

Assets		Liabilities and Stockholders' Equity		
Cash	$ 35,000	Accounts payable		$ 40,000
Accounts receivable	35,000			
Merchandise inventory	80,000	Stockholders' equity:		
		Capital stock	$100,000	
		Retained earnings	10,000	110,000
	$150,000			$150,000

Purpose of the consolidated balance sheet. From a legal standpoint, the parent company owns the stock of its subsidiary; it does not own the subsidiary's assets nor owe the subsidiary's debts. The unconsolidated balance sheet of a parent company shows, among the assets, the parent's investment in the stock of the subsidiary, and thus presents its financial condition from the legal point of view.

But such a balance sheet does not give a comprehensive picture of financial condition from what may be called a business point of view. The parent company controls the subsidiary's assets although it does not own them. The consolidated balance sheet ignores the legal fact of separate corporate entities and shows all of the assets which the parent company owns or controls and all of the liabilities to which these assets are subject.

The unconsolidated balance sheet of the parent company and the consolidated balance sheet serve different purposes. An unconsolidated balance sheet of the parent company should be used when it is desired to show the financial condition of the

parent company from a legal standpoint as a separate corporate entity.

A consolidated balance sheet should be used when the legal reality of separate corporate entities can be safely ignored and it is desired to show, in a single statement, all of the assets which the parent company owns or controls and all of the liabilities to which these assets are subject.

Purchase of a subsidiary. Organizing a subsidiary is not the only way of acquiring one. A corporation may acquire a subsidiary by purchasing, from shareholders, the stock of an existing company. In such cases:

The price paid for the subsidiary stock may be equal to, or different from, its book value as shown by the accounts of the subsidiary.

The parent company may acquire control of the subsidiary although purchasing less than 100% of its stock. A minority interest in the subsidiary then exists.

These matters are considered on the following pages. If a consolidated balance sheet is prepared at the date of acquisition, the intercompany eliminations are made in conformity with the following rule:

Eliminate from the subsidiary's stockholders' equity accounts the amounts that represent the parent's equity therein.

Eliminate an equal total (or net) amount from the parent's investment account.

All of Subsidiary Stock Acquired at Book Value

When the stock of a going concern is purchased, the subsidiary probably will have retained earnings or a deficit at the date of acquisition.

Case 1. SUBSIDIARY RETAINED EARNINGS AT ACQUISITION. It is assumed that, at the date of acquisition, the subsidiary had capital stock of $50,000 par value and retained earnings of $15,000, and that the parent company acquired all of the stock at its book value of $65,000.

In accordance with the rule stated above, eliminations of reciprocal amounts are made in the working papers as follows:

From the subsidiary's:	
Capital stock—100% of $50,000	$50,000
Retained earnings—100% of $15,000	15,000
From the parent's investment account	$65,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
(Date of Acquisition)

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Consolidated	
Cash	9,000	31,000			40,000	
Accounts receivable	5,000	15,000			20,000	
Merchandise inventory	11,000	24,000			35,000	
Investment in stock of Company *S* (100%)	65,000			65,000 A		
	90,000	70,000				
Liabilities and Stockholders' Equity						
Accounts payable	10,000	5,000				15,000
Capital stock:						
Company *P*	75,000					75,000
Company *S*		50,000	50,000 A			
Retained earnings:						
Company *P*	5,000					5,000
Company *S*		15,000	15,000 A			
	90,000	70,000	65,000	65,000	95,000	95,000

Adjustments and Eliminations

A—Book value of subsidiary's stock at date of acquisition.

The following consolidated balance sheet was prepared from the foregoing working papers.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet
(Date of Acquisition)

Assets		Liabilities and Stockholders' Equity		
Cash	$40,000	Accounts payable		$15,000
Accounts receivable	20,000			
Merchandise inventory	35,000	Stockholders' equity:		
		Capital stock	$75,000	
		Retained earnings	5,000	80,000
	$95,000			$95,000

A purchased subsidiary's retained earnings at the date of acquisition should never be treated as part of the consolidated retained earnings. If such a treatment were permitted, a parent company could increase consolidated retained earnings merely by purchasing a subsidiary with a credit balance in its Retained Earnings account.

The subsidiary's retained earnings at the date of acquisition are part of the book value of the stock at that date and must be eliminated, together with the subsidiary's capital stock, in the process of preparing consolidated financial statements.

Case 2. SUBSIDIARY DEFICIT AT ACQUISITION. It is now assumed that, at the date of acquisition, the subsidiary had capital stock of $60,000 and a deficit of $15,000, and that the parent company acquired all of the stock at its book value of $45,000.

The eliminations, made in accordance with the stated rule, are:

From the subsidiary's:	
Capital stock—100% of \$60,000	\$60,000
Retained earnings—100% of \$15,000 (deficit)	15,000
From the parent's investment account	\$45,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
(Date of Acquisition)

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Consolidated	
Cash	16,000	14,000			30,000	
Accounts receivable	4,000	16,000			20,000	
Merchandise inventory	15,000	25,000			40,000	
Investment in stock of Company *S* (100%)	45,000			45,000 A		
	80,000	55,000				
Liabilities and Stockholders' Equity						
Accounts payable	20,000	10,000				30,000
Capital stock:						
Company *P*	50,000					50,000
Company *S*		60,000	60,000 A			
Retained earnings (deficit*):						
Company *P*	10,000					10,000
Company *S*		15,000*		15,000 A		
	80,000	55,000	60,000	60,000	90,000	90,000

Adjustments and Eliminations

A—Book value of subsidiary's stock at date of acquisition.

Differences Between Cost and Book Value at Acquisition

Cost in excess of book value. Assume that a company paid \$65,000 for all of the stock of a company with capital stock of \$50,000 and retained earnings of \$10,000 at the date of acquisition. After eliminating from the investment account the \$60,000 book value at acquisition, what should be done with the remaining \$5,000?

The traditional answer to this question was: Show it in the consolidated balance sheet as goodwill. In recent years, the propriety of this procedure has been questioned and alternative procedures have been suggested. The traditional (and still widely accepted) procedure is illustrated in this chapter. Alternatives are discussed in a subsequent chapter.

Case 3. GOODWILL. At the date of acquisition, the subsidiary had a capital stock of \$50,000 and retained earnings of \$10,000. The parent acquired all of the stock for \$65,000.

Observe, in the following working papers, that the cost of the investment is divided into its two elements: the book value at the date of acquisition and the excess of the cost over the book value.

These two elements may be recorded in separate accounts on the parent's books; if the total cost is recorded in one account on the parent's books, the elements may be separated for working paper purposes.

Observe, also, that the reciprocal element (book value at acquisition) is eliminated and the nonreciprocal element (excess of cost over book value) is extended to the Consolidated column.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
(Date of Acquisition)

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Consolidated	
Cash	5,000	35,000			40,000	
Accounts receivable	10,000	15,000			25,000	
Merchandise inventory	20,000	25,000			45,000	
Investment in stock of Company *S* (100%):						
Book value at acquisition	60,000			60,000 A		
Excess of cost over book value—Goodwill	5,000				5,000	
	100,000	75,000				
Liabilities and Stockholders' Equity						
Accounts payable	10,000	15,000				25,000
Capital stock:						
Company *P*	75,000					75,000
Company *S*		50,000	50,000 A			
Retained earnings:						
Company *P*	15,000					15,000
Company *S*		10,000	10,000 A			
	100,000	75,000	60,000	60,000	115,000	115,000

Adjustments and Eliminations

A—Book value of subsidiary's stock at date of acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet
(Date of Acquisition)

Assets		Liabilities and Stockholders' Equity		
Cash	$ 40,000	Accounts payable		$ 25,000
Accounts receivable	25,000			
Merchandise inventory	45,000	Stockholders' equity:		
Goodwill	5,000	Capital stock	$75,000	
		Retained earnings	15,000	90,000
	$115,000			$115,000

Book value in excess of cost. The stock of a subsidiary may be acquired at less than book value. The treatment of an excess of book value at acquisition over cost is discussed in Chapter 20,

following the discussion of alternative procedures for dealing with an excess of cost over book value.

Minority Interest

If the parent company acquires less than 100% of the subsidiary stock, it shares the ownership of the subsidiary with the outsiders whose stock it did not purchase. These stockholders are called the *minority stockholders* or the *minority interest.*

The capital stock and retained earnings (or deficit) accounts of the subsidiary then include two elements:

The parent company's interest in the stockholders' equity of the subsidiary, which is eliminated in accordance with the previously stated rule.

The minority interest in the stockholders' equity of the subsidiary. The minority interest is the outside stockholders' percentage of the subsidiary's capital stock and retained earnings (or deficit). These items are not reciprocal to any balances on the parent company's books; therefore, they are not eliminated. The minority interest is shown on the credit side of the consolidated balance sheet—usually between the liabilities and the stockholders' equity.

Case 4. SUBSIDIARY RETAINED EARNINGS AT ACQUISITION; STOCK ACQUIRED AT BOOK VALUE. In this illustration it is assumed that the subsidiary had a capital stock of $50,000 and retained earnings of $10,000 at the date when the parent company acquired 90% of its stock at book value, $54,000. Working papers are on page 312. The eliminations, made in accordance with the general rule, are:

From the subsidiary's:	
Capital stock—90% of $50,000	$45,000
Retained earnings—90% of $10,000	9,000
From the parent's investment account	$54,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet
(Date of Acquisition)

Assets		Liabilities and Stockholders' Equity		
Cash	$ 50,000	Accounts payable		$ 25,000
Accounts receivable	25,000	Minority interest in subsidiary		6,000
Merchandise inventory	46,000			
		Stockholders' equity:		
		Capital stock	$75,000	
		Retained earnings	15,000	90,000
	$121,000			$121,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
(Date of Acquisition)

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Minority Interest		Consolidated	
Cash	20,000	30,000					50,000	
Accounts receivable	5,000	20,000					25,000	
Merchandise inventory	21,000	25,000					46,000	
Investment in stock of Company *S* (90%)	54,000			54,000 A				
	100,000	75,000						
Liabilities and Stockholders' Equity								
Accounts payable	10,000	15,000						25,000
Capital stock:								
Company *P*	75,000							75,000
Company *S*		50,000	45,000 A			5,000		
Retained earnings:								
Company *P*	15,000							15,000
Company *S*		10,000	9,000 A			1,000		
	100,000	75,000	54,000	54,000				
Minority interest					6,000			6,000
					6,000	6,000		
							121,000	121,000

Adjustments and Eliminations

A—90% of subsidiary's stockholders' equity at date of acquisition.

Intercompany Eliminations, Goodwill, Minority Interest, and Consolidated Retained Earnings in a Series of Consolidated Balance Sheets

We shall now present consolidated balance sheet working papers of a parent and subsidiary

At the date of acquisition;
One year after the date of acquisition;
Two years after the date of acquisition.

The purpose of these working papers is to show that:

The intercompany eliminations are the same. They are based on the stockholders' equity *at the date of acquisition.*

The goodwill remains the same. It is the excess of the cost of the subsidiary stock over its book value *at the date of acquisition.*

The minority interest changes. It is the minority's percentage of the subsidiary's capital stock and retained earnings *at the date of the consolidated balance sheet.*

The consolidated retained earnings change. They include the parent's retained earnings *at the date of the consolidated balance sheet plus the parent's percentage of any increase* (*or minus its percentage of any decrease*) *in the subsidiary's retained earnings between the date of acquisition and the date of the consolidated balance sheet.*

The illustrations are based on the following facts: On December 31, 1959, Company *P* paid $65,000 for a 90% interest in the capital stock of Company *S*. On that date, Company *S* had outstanding capital stock of $50,000 and retained earnings of $20,000. Company *P*'s retained earnings on that date were $35,000.

Balance sheet at date of acquisition. Consolidated working papers are on the following page. The goodwill is computed as follows:

Cost of stock investment		$65,000
Deduct 90% of subsidiary's stockholders' equity:		
90% of $50,000 capital stock	$45,000	
90% of $20,000 retained earnings	18,000	63,000
Excess of cost over book value—Goodwill		$ 2,000

The minority interest is:

10% of $50,000 capital stock	$ 5,000
10% of $20,000 retained earnings	2,000
Total	$ 7,000

The consolidated retained earnings are the amount shown by Company *P*'s balance sheet—$35,000.

Balance sheet at date of acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
December 31, 1959
(Date of Acquisition)

Assets	Company P	Company S	Adjustments and Eliminations		Minority Interest	Retained Earnings	Consolidated	
Cash	15,000	20,000					35,000	
Accounts receivable	20,000	18,000					38,000	
Merchandise inventory	40,000	35,000					75,000	
Investment in stock of Company S (90%):								
Book value at acquisition	63,000			63,000 A				
Excess of cost over book value—Goodwill	2,000						2,000	
	140,000	73,000						
Liabilities and Stockholders' Equity								
Accounts payable	5,000	3,000						8,000
Capital stock:								
Company P	100,000							100,000
Company S		50,000	45,000 A		5,000			
Retained earnings:								
Company P	35,000					35,000		
Company S		20,000	18,000 A		2,000			
	140,000	73,000	63,000	63,000				
Minority interest					7,000			7,000
Retained earnings						35,000		35,000
							150,000	150,000

Adjustments and Eliminations

A—90% of subsidiary's stockholders' equity at date of acquisition.

Because so few items affect the minority interest and the retained earnings, only one column need be provided for each, deductions being indicated by asterisks. This procedure simplifies the working papers by reducing the number of columns.

Balance sheet one year after acquisition. By the end of the first year after acquisition, Company *P*'s retained earnings were $42,000 and Company *S*'s retained earnings were $25,000—an increase of $5,000.

The goodwill remains the same—$2,000.

The minority interest is computed as follows:

10% of subsidiary's capital stock	$ 5,000
10% of subsidiary's retained earnings	2,500
Total	$ 7,500

The consolidated retained earnings are:

Company *P*'s retained earnings	$42,000
Plus 90% of $5,000 increase in subsidiary's retained earnings since acquisition	4,500
Total	$46,500

The working papers are on page 316.

Observe the working paper treatment of the subsidiary's $25,000 of retained earnings at the balance sheet date. It is divided into:

$20,000 at date of acquisition:
- The parent's 90% is eliminated.
- The minority's 10% interest is extended to the Minority Interest column.

$5,000 increase since acquisition:
- The minority's 10% is extended to the Minority Interest column.
- The parent's 90% is extended to the Retained Earnings column.

Balance sheet two years after acquisition. By the end of the second year after acquisition, Company *P*'s retained earnings were $49,000; Company *S*'s retained earnings were $17,000—a $3,000 decrease from its retained earnings at the date of acquisition.

The goodwill remains the same—$2,000.

The minority interest is:

10% of subsidiary's capital stock	$ 5,000
10% of subsidiary's retained earnings	1,700
Total	$ 6,700

The consolidated retained earnings are:

Company *P*'s retained earnings	$49,000
Deduct 90% of the $3,000 decrease in the subsidiary's retained earnings since acquisition	2,700
Net	$46,300

The working papers are on page 317.

Balance sheet one year after acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
December 31, 1960
(End of First Year After Acquisition)

Assets	Company P	Company S	Adjustments and Eliminations		Minority Interest	Retained Earnings	Consolidated	
Cash	26,000	24,500					50,500	
Accounts receivable	30,000	24,000					54,000	
Merchandise inventory	27,000	30,000					57,000	
Investment in stock of Company S (90%):								
Book value at acquisition	63,000			63,000 A				
Excess of cost over book value—Goodwill	2,000						2,000	
	148,000	78,500						
Liabilities and Stockholders' Equity								
Accounts payable	6,000	3,500						9,500
Capital stock:								
Company P	100,000							100,000
Company S		50,000	45,000 A		5,000			
Retained earnings:								
Company P	42,000					42,000		
Company S:								
At acquisition		20,000	18,000 A		2,000			
Increase since		5,000			500	4,500		
	148,000	78,500	63,000	63,000				
Minority interest					7,500			7,500
Retained earnings						46,500		46,500
							163,500	163,500

Adjustments and Eliminations

A—90% of subsidiary's stockholders' equity at date of acquisition.

Balance sheet two years after acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
December 31, 1961
(End of Second Year After Acquisition)

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Minority Interest	Retained Earnings	Consolidated	
Cash	21,800	14,900					36,700	
Accounts receivable	30,000	27,000					57,000	
Merchandise inventory	38,000	29,000					67,000	
Investment in stock of Company *S* (90%):								
Book value at acquisition	63,000			63,000 A				
Excess of cost over book value—Goodwill	2,000						2,000	
	154,800	70,900						
Liabilities and Stockholders' Equity								
Accounts payable	5,800	3,900						9,700
Capital stock:								
Company *P*	100,000							100,000
Company *S*		50,000	45,000 A		5,000			
Retained earnings:								
Company *P*	49,000					49,000		
Company *S*:								
At acquisition		20,000	18,000 A		2,000			
Decrease since		3,000*			300*	2,700*		
	154,800	70,900	63,000	63,000				
Minority interest					6,700			6,700
Retained earnings						46,300		46,300
							162,700	162,700

* Deduction.

Adjustments and Eliminations

A—90% of subsidiary's stockholders' equity at date of acquisition.

Goodwill on books of parent or subsidiary. If a goodwill appears in the balance sheet of the parent and/or the subsidiary, the goodwill elements may be assembled in the manner shown in the following partial working papers.

Assets	Company *P*	Company *S*	Adjustments and Eliminations	
Investment in stock of Company *S* (90%):				
Book value at acquisition	63,000			63,000 A
Excess of cost over book value—Goodwill	2,000			2,000 B
Goodwill	6,500		2,000 B	

The $8,500 goodwill total would be extended to the Consolidated debit column.

Intercompany receivables and payables. A consolidated balance sheet shows the financial condition of a group of companies with all intercompany relationships eliminated.

Related companies frequently buy from and sell to each other on credit, so that the accounts receivable of one company and the accounts payable of another company contain reciprocal intercompany accounts. The amounts of such reciprocal intercompany receivables and payables should be eliminated in the working papers. The working papers on the opposite page show such eliminations.

Other intercompany accounts, such as notes receivable and notes payable, should be similarly eliminated.

Adjustments. Balance sheet adjustments may be required before the consolidated balance sheet is prepared. For example, refer to the working papers on page 319. Company *S*'s balance sheet shows a $5,000 receivable from Company *P*, but Company *P*'s balance sheet shows only $3,000 payable to Company *S*. The difference was caused by the fact that Company *P* made a $2,000 payment toward the end of the year that had not been received by Company *S* before its balance sheet was prepared. Observe adjustment (A); this adjustment brings the intercompany accounts into agreement at $3,000—which is eliminated.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
(Date of Acquisition)

Assets	Company *P*	Company *S*	Adjustments and Eliminations		Consolidated	
Cash	16,000	25,500	2,000 A		43,500	
Accounts receivable:						
Company *P*		5,000		2,000 A 3,000 B		
Other	25,000	20,000			45,000	
Merchandise inventory	27,000	26,000			53,000	
Investment in stock of Company *S* (100%)	70,000			70,000 C		
	138,000	76,500				
Liabilities and Stockholders' Equity						
Accounts payable:						
Company *S*	3,000		3,000 B			
Other	4,000	6,500				10,500
Capital stock:						
Company *P*	100,000					100,000
Company *S*		50,000	50,000 C			
Retained earnings:						
Company *P*	31,000					31,000
Company *S*		20,000	20,000 C			
	138,000	76,500	75,000	75,000	141,500	141,500

Adjustments and Eliminations

A—Payment in transit from parent on account payable to subsidiary.
B—Elimination of intercompany accounts receivable and payable.
C—100% of subsidiary's stockholders' equity at date of acquisition.

CHAPTER EIGHTEEN

Parent and Subsidiary Accounting (Continued)

Methods of accounting for investment in subsidiary. There are two principal methods which may be used by a parent company in accounting for its investment in the stock of a subsidiary. They are:

The cost method (sometimes called the legal-basis method)—discussed in this chapter.

The equity method (sometimes called the economic-basis method)—discussed in Chapter 19.

Cost or legal-basis method. From a legal standpoint, a parent and its subsidiary are separate corporate entities, and the net income of the subsidiary is not income to the parent. Only the parent's share of dividends declared by the subsidiary is income to the parent.

On the legal or cost basis of accounting, the parent charges an investment account with the cost of the subsidiary stock and records dividends as income, regardless of the net earnings or loss of the subsidiary during the period covered by the statement.

Illustrative entries. The following entries illustrate the cost method procedure:

December 31, 1960:

Company *P* acquired all of the stock of Company *S* for $70,000, which was its book value. The stockholders' equity in

Company *S* consisted of capital stock, \$50,000, and retained earnings, \$20,000.

Investment in stock of Company *S*	70,000	
Cash		70,000

Year 1961:

The net income of Company *S* was \$4,000.

No entry.

The subsidiary paid a \$3,000 dividend.

Cash	3,000	
Dividend income (to be closed to Revenue and Expense)		3,000

Year 1962:

The net income of Company *S* was \$9,000.

No entry.

The subsidiary paid a \$4,000 dividend.

Cash	4,000	
Dividend income		4,000

Appraisal of the cost method. The cost-basis method conforms strictly to the legal realities of separate corporate entities. However, when this method is used, the parent's investment account does not reflect the increase in the underlying value of the investment resulting from subsidiary earnings, nor the decrease in the underlying value of the investment resulting from subsidiary losses and dividends.

Of even more significance is the fact that dividends declared by a subsidiary during a year may bear little or no relationship to the results of the subsidiary's operations during the year. For instance, a subsidiary may have a net income of \$25,000 and pay a \$6,000 dividend; or it may have a net loss of \$25,000 and pay a \$6,000 dividend from earnings accumulated in prior years. Therefore, the sum of the parent's earnings from its own operations during a year and the dividend declarations by the subsidiary during the year is not an accurate measure of the parent's interest in the net income of the group of companies.

Consolidated Income Statement, Statement of Retained Earnings, and Balance Sheet

Consolidated income statement. The consolidated net income of a parent and subsidiary is shown by a consolidated income statement. The statement is prepared by combining the balances of the revenue and expense accounts of the parent and

subsidiary, after eliminating revenue and expense account balances, or portions thereof, resulting from intercompany transactions.

Dividends received by the parent from the subsidiary are not shown in the consolidated income statement; from the viewpoint of the combined entity, such dividends are not income but are merely transfers of assets. They are eliminated in the working papers by a debit to the parent's dividend income account and a credit to the subsidiary's account charged with the dividends.

Consolidated statement of retained earnings. The consolidated statement of retained earnings shows the consolidated retained earnings at the beginning of the period, the consolidated net income for the period, any dividends declared by the parent company during the period, and the consolidated retained earnings at the end of the period.

Illustrative cases. To illustrate the procedures of preparing consolidated working papers and statements for periods subsequent to acquisition, four cases will be presented, as follows:

No minority interest:
- Case A-1: At the end of the first year after acquisition.
- Case A-2: At the end of the second year after acquisition.
  (These cases are based on the data that were used for the preceding illustration of parent company entries.)

Minority interest:
- Case B-1: At the end of the first year after acquisition.
- Case B-2: At the end of the second year after acquisition.
  (These cases are similar to the A-1 and A-2 cases but with the introduction of a minority interest.)

Case A-1. NO MINORITY; STATEMENTS AT END OF FIRST YEAR. On December 31, 1960, Company *P* acquired all of the stock of Company *S* for $70,000, which was its book value. The stockholders' equity in Company *S* consisted of capital stock, $50,000, and retained earnings, $20,000.

Consolidated working papers for the year ended December 31, 1961 (the first year following acquisition) are on pages 324 and 325. To prepare such working papers, the accountant would:

Complete the first four columns, thus getting the basic data into the working papers;

Enter the adjustments and eliminations; total the debit and credit adjustments and eliminations applicable to each section of the working papers;

Extend amounts to, and complete, the pair of Consolidated columns.

Observe the cross-check features of the working papers:

Income statement papers:	
Net income:	
Company *P*	$13,000
Company *S*	4,000
Total	$17,000
Deduct debit Adjustments and Eliminations column total	3,000
Consolidated net income	$14,000
Retained earnings statement papers:	
Retained earnings—December 31, 1961:	
Company *P*	$57,000
Company *S*	21,000
Total	$78,000
Deduct debit Adjustments and Eliminations column total	23,000
Remainder	$55,000
Add credit Adjustments and Eliminations column total	3,000
Consolidated retained earnings	$58,000

COMPANY P AND SUBSIDIARY
Consolidated Income Statement
For the Year Ended December 31, 1961

Sales		$287,000
Deduct cost of goods sold:		
Merchandise inventory—December 31, 1960	$105,000	
Purchases	207,000	
Total	$312,000	
Deduct merchandise inventory—December 31, 1961	88,000	224,000
Gross profit on sales		$ 63,000
Expenses		49,000
Net income		$ 14,000

COMPANY P AND SUBSIDIARY
Consolidated Statement of Retained Earnings
For the Year Ended December 31, 1961

Retained earnings—December 31, 1960	$ 50,000
Net income	14,000
Total	$ 64,000
Deduct dividends	6,000
Retained earnings—December 31, 1961	$ 58,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet
December 31, 1961

Assets		Liabilities and Stockholders' Equity		
Cash	$ 57,000	Accounts payable		$ 29,000
Accounts receivable	42,000			
Merchandise inventory	88,000	Stockholders' equity:		
		Capital stock	$100,000	
		Retained earnings	58,000	158,000
	$187,000			$187,000

Case A-1.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
INCOME STATEMENT:								
Sales		195,000		92,000				287,000
Merchandise inventory—Dec. 31, 1960	60,000		45,000				105,000	
Purchases	134,000		73,000				207,000	
Merchandise inventory—Dec. 31, 1961		40,000		48,000				88,000
Expenses	31,000		18,000				49,000	
Dividend from subsidiary		3,000			3,000 A			
Net income—forward	13,000		4,000		3,000		14,000	
	238,000	238,000	140,000	140,000			375,000	375,000
STATEMENT OF RETAINED EARNINGS:								
Retained earnings—Dec. 31, 1960:								
Company *P*		50,000						50,000
Company *S*				20,000	20,000 B			
Net income—brought forward		13,000		4,000	3,000			14,000
Dividends:								
Company *P*	6,000						6,000	
Company *S*			3,000			3,000 A		
Retained earnings—Dec. 31, 1961—forward	57,000		21,000		23,000	3,000	58,000	
	63,000	63,000	24,000	24,000			64,000	64,000

Balance Sheet:								
Cash	37,000		20,000				57,000	
Accounts receivable	29,000		13,000				42,000	
Merchandise inventory	40,000		48,000				88,000	
Investment in stock of Company *S* (100%)	70,000					70,000 B		
Accounts payable		19,000		10,000				29,000
Capital stock:								
Company *P*		100,000						100,000
Company *S*				50,000	50,000 B			
Retained earnings—brought forward		57,000		21,000	23,000	3,000		58,000
	176,000	176,000	81,000	81,000	73,000	73,000	187,000	187,000

Adjustments and Eliminations

A—Intercompany dividend.
B—Book value of subsidiary stock at date of acquisition.

When the cost-basis method is used, the investment in the subsidiary is carried at cost; therefore, the eliminations from the parent's investment account and from the subsidiary's Capital Stock and Retained Earnings accounts are always made on the basis of the book value of the stock acquired at the date of acquisition.

Case A-2. NO MINORITY; STATEMENTS AT END OF SECOND YEAR. This illustration continues the preceding case. The working paper procedures are similar, with one additional step which has to do with the undistributed earnings of the subsidiary accumulated between the date of acquisition and the beginning of the period for which consolidated statements are being prepared. It is necessary because the consolidated retained earnings at the beginning of the period for which statements are being prepared should include:

The parent's retained earnings (including subsidiary dividends) at the beginning of the period; and
The parent's share of the increase in the subsidiary's retained earnings between the date of acquisition and the beginning of the period—that is, the earnings accruing to the parent but not realized by it in the form of dividends.

Observe, in the working papers, how the subsidiary's retained earnings at the beginning of the year for which the statements are being prepared are divided between the retained earnings at the date of acquisition (eliminated) and the subsequent increase (included in consolidated retained earnings at the beginning of the year). This is the additional step mentioned above.

Case A-2.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1962

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
INCOME STATEMENT:								
Sales		214,000		133,000				347,000
Merchandise inventory—Dec. 31, 1961	40,000		48,000				88,000	
Purchases	165,000		92,000				257,000	
Merchandise inventory—Dec. 31, 1962		42,000		39,000				81,000
Expenses	37,000		23,000				60,000	
Dividend from subsidiary		4,000			4,000 A			
Net income—forward	18,000		9,000		4,000		23,000	
	260,000	260,000	172,000	172,000			428,000	428,000

STATEMENT OF RETAINED EARNINGS:								
Retained earnings—Dec. 31, 1961:								
Company *P*		57,000						57,000
Company *S*:								
At acquisition				20,000	20,000 B			
Increase to Dec. 31, 1961				1,000				1,000
Total								58,000
Net income—brought forward		18,000		9,000	4,000			23,000
Dividends:								
Company *P*	6,000						6,000	
Company *S*			4,000			4,000 A		
Retained earnings—Dec. 31, 1962– forward	69,000		26,000		24,000	4,000	75,000	
	75,000	75,000	30,000	30,000			81,000	81,000
BALANCE SHEET:								
Cash	36,500		22,000				58,500	
Accounts receivable	37,500		28,500				66,000	
Merchandise inventory	42,000		39,000				81,000	
Investment in stock of Company *S* (100%)	70,000					70,000 B		
Accounts payable		17,000		13,500				30,500
Capital stock:								
Company *P*		100,000						100,000
Company *S*				50,000	50,000 B			
Retained earnings—brought forward		69,000		26,000	24,000	4,000		75,000
	186,000	186,000	89,500	89,500	74,000	74,000	205,500	205,500

Adjustments and Eliminations

A—Intercompany dividend.

B—Book value of subsidiary stock at date of acquisition.

Case B-1. MINORITY INTEREST; STATEMENTS AT END OF FIRST YEAR. This case is the same as Case A-1, with one exception: there is a 10% minority interest. The parent's 90% interest was acquired at book value.

Observe, in the working papers:

The eliminations of 90% of the subsidiary's capital stock and 90% of its retained earnings at the date of acquisition, and the extension of 10% of the capital stock and retained earnings to the Minority Interest column.

The deduction of the minority's 10% interest in the $4,000 net income of the subsidiary, to determine the consolidated net income.

Observe also that a "Minority interest" line has been included in the income statement working papers immediately preceding the "Net income" line, and that a Minority Interest column has been provided.

Case B-1.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
INCOME STATEMENT:									
Sales		195,000		92,000					287,000
Merchandise inventory—Dec. 31, 1960	60,000		45,000					105,000	
Purchases	134,000		73,000					207,000	
Merchandise inventory—Dec. 31, 1961		40,000		48,000					88,000
Expenses	31,000		18,000					49,000	
Dividend from subsidiary		2,700			2,700 A				
Minority interest—10% of $4,000							400	400	
Net income—forward	12,700		4,000		2,700		400	13,600	
	237,700	237,700	140,000	140,000				375,000	375,000

Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1960:									
Company *P*		50,000							50,000
Company *S*				20,000	18,000 B		2,000		
Net income—brought forward		12,700		4,000	2,700		400		13,600
Dividends:									
Company *P*	6,000							6,000	
Company *S*			3,000			2,700 A	300*		
Retained earnings—Dec. 31, 1961—forward	56,700		21,000		20,700	2,700	2,100	57,600	
	62,700	62,700	24,000	24,000				63,600	63,600
Balance Sheet:									
Cash	43,700		20,000					63,700	
Accounts receivable	29,000		13,000					42,000	
Merchandise inventory	40,000		48,000					88,000	
Investment in stock of Company *S* (90%)	63,000					63,000 B			
Accounts payable		19,000		10,000					29,000
Capital stock:									
Company *P*		100,000							100,000
Company *S*				50,000	45,000 B		5,000		
Retained earnings—brought forward		56,700		21,000	20,700	2,700	2,100		57,600
Total minority interest							7,100		7,100
	175,700	175,700	81,000	81,000	65,700	65,700		193,700	193,700

* Deduction.

Adjustments and Eliminations

A—Intercompany dividend.
B—Book value of subsidiary stock at date of acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Income Statement
For the Year Ended December 31, 1961

Sales		$287,000
Deduct cost of goods sold:		
Merchandise inventory—December 31, 1960	$105,000	
Purchases	207,000	
Total	$312,000	
Deduct merchandise inventory—December 31, 1961	88,000	224,000
Gross profit on sales		$ 63,000
Expenses		49,000
Total net income		$ 14,000
Deduct minority interest in subsidiary net income		400
Consolidated net income		$ 13,600

COMPANY P AND SUBSIDIARY
Consolidated Statement of Retained Earnings
For the Year Ended December 31, 1961

Retained earnings—December 31, 1960	$ 50,000
Consolidated net income	13,600
Total	$ 63,600
Deduct dividends	6,000
Retained earnings—December 31, 1961	$ 57,600

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet
December 31, 1961

Assets		Liabilities and Stockholders' Equity		
Cash	$ 63,700	Accounts payable		$ 29,000
Accounts receivable	42,000	Minority interest in subsidiary		7,100
Merchandise inventory	88,000			
		Stockholders' equity:		
		Capital stock	$100,000	
		Retained earnings	57,600	157,600
	$193,700			$193,700

Case B-2. MINORITY INTEREST; STATEMENTS AT END OF SECOND YEAR. This illustration continues the preceding case through the second year after acquisition of the subsidiary. The new feature is the apportionment, between the minority interest and the consolidated retained earnings, of the increase in the subsidiary's retained earnings from the date of the stock acquisition to the beginning of the year for which statements are to be prepared.

Case B-2.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1962

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
INCOME STATEMENT:									
Sales		214,000		133,000					347,000
Merchandise inventory—Dec. 31, 1961	40,000		48,000					88,000	
Purchases	165,000		92,000					257,000	
Merchandise inventory—Dec. 31, 1962		42,000		39,000					81,000
Expenses	37,000		23,000					60,000	
Dividend from subsidiary		3,600			3,600 A				
Minority interest—10% of $9,000							900	900	
Net income—forward	17,600		9,000					22,100	
	259,600	259,600	172,000	172,000	3,600		900	428,000	428,000

COMPANY P AND SUBSIDIARY
Consolidated Working Papers (Concluded)
For the Year Ended December 31, 1962

STATEMENT OF RETAINED EARNINGS:									
Retained earnings—Dec. 31, 1961:									
Company *P*		56,700							56,700
Company *S*:									
At acquisition				20,000	18,000 B		2,000		
Increase to Dec. 31, 1961				1,000			100		900
Total									57,600
Net income—brought forward		17,600		9,000	3,600		900		22,100
Dividends:									
Company *P*	6,000							6,000	
Company *S*			4,000			3,600 A	400*		
Retained earnings—Dec. 31, 1962—forward	68,300		26,000		21,600	3,600	2,600	73,700	
	74,300	74,300	30,000	30,000				79,700	79,700
BALANCE SHEET:									
Cash	42,800		22,000					64,800	
Accounts receivable	37,500		28,500					66,000	
Merchandise inventory	42,000		39,000					81,000	
Investment in stock of Company *S* (90%)	63,000					63,000 B			
Accounts payable		17,000		13,500					30,500
Capital stock:									
Company *P*		100,000							100,000
Company *S*				50,000	45,000 B		5,000		
Retained earnings—brought forward		68,300		26,000	21,600	3,600	2,600		73,700
Total minority interest							7,600		7,600
	185,300	185,300	89,500	89,500	66,600	66,600		211,800	211,800

* Deduction.

Adjustments and Eliminations

A—Intercompany dividend.
B—Book value of subsidiary stock at date of acquisition.

Intercompany Relationships

Intercompany sales. If intercompany sales are made, the amount of such sales and the offsetting purchases should be eliminated. Any reciprocal receivables and payables should also be eliminated.

Intercompany bondholdings. When one company holds bonds of a related company, the intercompany-held bonds should be eliminated to show the amount of public-held bonds.

Bond interest expense and income. In the consolidated working papers, the interest earned by the company owning the intercompany-held bonds should be eliminated against the interest expense of the issuing company.

Accrued interest. If there are intercompany bonds or notes, the balance sheet of the company issuing the paper may show a liability for accrued interest. The company holding the paper should then show an asset of accrued interest receivable. The accrued interest receivable should be eliminated against the accrued interest payable, and only the amount payable to outside creditors should be shown as a liability in the balance sheet.

Declared dividends unpaid. If the subsidiary has declared dividends which are unpaid at the date of the balance sheet, its books will show a liability of dividends payable. The parent company's books should show an asset of dividends receivable, which should be eliminated against the dividends payable. The consolidated balance sheet will then show the liability for dividends declared and payable to the outside, or minority, stockholders.

Customers' notes transferred. If one of the related companies discounts its customers' notes at a bank, no peculiar difficulties arise. Its accounts may contain, for example, the following balances:

Notes receivable	$20,000	
Notes receivable discounted		$5,000

The consolidated balance sheet will include the $15,000 of undiscounted notes, and the $5,000 contingent liability on discounted notes will be mentioned in a footnote.

If Company *S* discounted the $5,000 of customers' notes with Company *P*, an affiliated company, the accounts of the two companies might contain the following balances:

Company *S*'s Books		
Notes receivable	$20,000	
Notes receivable discounted		$5,000
Company *P*'s Books		
Notes receivable	$ 5,000	

Since the $5,000 of discounted notes are carried in the Notes Receivable accounts of both companies, and since the $5,000 credit to Notes Receivable Discounted does not represent a contingent liability to outsiders, $5,000 of the Notes Receivable balance and the Notes Receivable Discounted balance should be eliminated.

But suppose that Company *P* has rediscounted $3,000 of the notes at a bank. The account balances will be as follows:

Company *S*'s Books		
Notes receivable	$20,000	
Notes receivable discounted		$5,000
Company *P*'s Books		
Notes receivable	$ 5,000	
Notes receivable discounted		$3,000

The $5,000 contingent liability on the books of Company *S* should be eliminated, with an offsetting elimination against the Notes Receivable on the books of Company *P*. The $3,000 contingent liability to outsiders, shown by the books of Company *P*, should be extended to the Consolidated column; the balance sheet should show as an asset the $17,000 of notes not discounted with outsiders, and the contingent liability of $3,000 to outsiders should be mentioned in a footnote.

Intercompany notes discounted. Assume that Company *S* has given a $5,000 note to Company *P* and that Company *P* has discounted it at the bank. At the end of the statement year, the note has not matured. Since the note is in the hands of the bank, the liability is no longer an intercompany one, and hence it must be shown in the consolidated balance sheet as a liability.

The Notes Receivable and the Notes Receivable Discounted in Company *P*'s balance sheet should be eliminated, and the Notes Payable in Company *S*'s balance sheet should be extended to the Consolidated column.

There is a difference of opinion among accountants about whether the $5,000 liability to outsiders should be shown in the consolidated balance sheet as Notes Receivable—Company *S*—Discounted, or as Notes Payable. Those who favor the former title contend that the note is a direct liability of one of the related companies and a secondary liability of the other company, and that the showing of the liability as a note payable would not indicate the liability of both companies.

The authors' opinion is that the "Notes Payable" title is preferable. In the first place, the consolidated balance sheet is based on the assumption that the related companies are a single organization. From the viewpoint of the consolidated balance sheet, therefore, a note signed by one company is as much a liability of

the organization as a note signed by one company and endorsed by another related company. In the second place, "Notes Receivable Discounted" suggests merely a contingent liability.

Illustrative working papers and statements. This illustration is intended primarily to show the treatment of intercompany accounts. The working papers are on pages 336 to 338. The eliminations are described below.

Income statement papers:

A—Intercompany sales and purchases.
B—Intercompany interest on Company *S*'s bonds.
C—Intercompany interest on Company *S*'s notes.

Income and retained earnings papers:

D—Intercompany dividend. Observe that Company *P*'s credit to Dividend Income is eliminated in the income statement papers, and that Company *S*'s debit for dividends paid is eliminated in the retained earnings papers.

Balance sheet papers:

E—Intercompany accounts receivable and payable.
F—The assets of Company *S* include $15,000 of trade notes receivable; but $5,000 of these notes have been discounted with Company *P*. The effects of this intercompany transaction are eliminated as follows:

Debit Notes Receivable Discounted (Company *S*'s accounts).
Credit Notes Receivable (Company *P*'s accounts).

G—Intercompany notes receivable and payable—$25,000.
Observe that the $20,000 credit balance in the Notes Receivable Discounted account in the Company *P* columns is extended to the Consolidated credit column. When the consolidated balance sheet is prepared, this amount is deducted from notes receivable and the $20,000 contingent liability is shown in a footnote.
H—Intercompany interest receivable and payable.
I—Intercompany dividend receivable and payable.
J—Intercompany bonds.
K—Intercompany stockholding. (The parent company organized the subsidiary; since the subsidiary had no retained earnings at the date of organization, its entire retained earnings at the beginning of the period are part of the consolidated retained earnings.)

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1960

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
INCOME STATEMENT:								
Sales:								
Company *S*		60,000			60,000 A			
Other		450,000		305,000				755,000
Merchandise inventory—Dec. 31, 1959	85,000		68,000				153,000	
Purchases:								
Company *P*			60,000			60,000 A		
Other	360,000		201,000				561,000	
Merchandise inventory—Dec. 31, 1960		79,600		99,800				179,400
Rent	20,000						20,000	
Depreciation—Building			4,000				4,000	
Other operating expenses	105,000		57,000				162,000	
Interest income:								
Bonds		1,000			1,000 B			
Notes:								
Company *S*		1,500			1,500 C			
Trade		1,600		240				1,840
Dividend income		8,000			8,000 D			
Interest expense:								
Bonds			5,000			1,000 B	4,000	
Notes			1,500			1,500 C		
Income tax expense	9,500		2,500				12,000	
Net income—forward	22,200		6,040		70,500	62,500	20,240	
	601,700	601,700	405,040	405,040			936,240	936,240

Statement of Retained Earnings:								
Retained earnings—Dec. 31, 1959:								
Company *P*		69,800						69,800
Company *S*:								
At acquisition				—0—				
Increase since				9,260				9,260
Total								79,060
Net income—brought forward		22,200		6,040	70,500	62,500		20,240
Dividends:								
Company *P*	18,000						18,000	
Company *S*			8,000			8,000 D		
Retained earnings—Dec. 31, 1960—forward	74,000		7,300		70,500	70,500	81,300	
	92,000	92,000	15,300	15,300			99,300	99,300

Consolidated Working Papers (Concluded)

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
BALANCE SHEET:								
Cash	18,750		13,650				32,400	
Accounts receivable:								
Trade	40,000		45,000				85,000	
Company *S*	10,000					10,000 E		
Notes receivable:								
Trade	45,000		15,000			5,000 F	55,000	
Company *S*	25,000					25,000 G		
Notes receivable discounted		20,000		5,000	5,000 F			20,000
Accrued interest receivable:								
Bonds	500					500 H		
Notes:								
Company *S*	250					250 H		
Trade	400		100				500	
Dividends receivable	4,000					4,000 I		
Merchandise inventory—Dec. 31, 1960	79,600		99,800				179,400	
Investment in stock of Company *S* (100%)	200,000					200,000 K		
Investment in bonds of Company *S*	20,000					20,000 J		
Land			25,000				25,000	
Building			200,000				200,000	
Accumulated depreciation—Building				12,000				12,000
Accounts payable:								
Trade		40,000		30,000				70,000
Company *P*				10,000	10,000 E			
Notes payable—Company *P*				25,000	25,000 G			
Accrued interest payable:								
Bonds				2,500	500 H			2,000
Notes				250	250 H			
Dividends payable				4,000	4,000 I			
Income tax payable		9,500		2,500				12,000
Bonds payable				100,000	20,000 J			80,000
Capital stock:								
Company *P*		300,000						300,000
Company *S*				200,000	200,000 K			
Retained earnings—brought forward		74,000		7,300	70,500	70,500		81,300
	443,500	443,500	398,550	398,550	335,250	335,250	577,300	577,300

COMPANY P AND SUBSIDIARY
Consolidated Income Statement—Year Ended December 31, 1960

Sales		$755,000
Deduct cost of goods sold:		
Merchandise inventory—December 31, 1959	$153,000	
Purchases	561,000	
Total	$714,000	
Deduct merchandise inventory—December 31, 1960	179,400	534,600
Gross profit on sales		$220,400
Deduct operating expenses:		
Rent	$ 20,000	
Depreciation—Building	4,000	
Other operating expenses	162,000	186,000
Net operating income		$ 34,400
Add interest income		1,840
Total		$ 36,240
Deduct:		
Interest expense—Bonds	$ 4,000	
Income tax expense	12,000	16,000
Net income		$ 20,240

COMPANY P AND SUBSIDIARY
Consolidated Statement of Retained Earnings—Year Ended December 31, 1960

Retained earnings—December 31, 1959	$ 79,060
Net income	20,240
Total	$ 99,300
Deduct dividends	18,000
Retained earnings—December 31, 1960	$ 81,300

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet—December 31, 1960

Assets

Current assets:			
Cash		$ 32,400	
Accounts receivable		85,000	
Notes receivable		35,000	
Accrued interest receivable		500	
Merchandise inventory		179,400	$332,300
Fixed assets:			
Land		$ 25,000	
Building	$200,000		
Less accumulated depreciation	12,000	188,000	213,000
			$545,300

Liabilities and Stockholders' Equity

Current liabilities:		
Accounts payable	$ 70,000	
Accrued bond interest payable	2,000	
Income tax payable	12,000	$ 84,000
Bonds payable—Authorized and issued, $100,000; intercompany held, $20,000; outstanding		80,000
Stockholders' equity:		
Capital stock	$300,000	
Retained earnings	81,300	381,300
		$545,300

Note: Contingent liability on customers' notes discounted, $20,000.

Income taxes. In the preceding illustration, it has been assumed that the affiliated corporations file separate federal income tax returns. Under such circumstances, the separate tax amounts are merely combined for purposes of consolidated statements.

A group of affiliated corporations may file a consolidated tax return. The conditions that must be met for this privilege to be granted are very technical and involved, so it seems inappropriate to attempt to include them in a text not devoted primarily to income taxes. However, the following features can be mentioned in passing:

The privilege is allowed only if all of the eligible affiliated corporations agree to come under the tax arrangement.

To qualify as an affiliated company, at least 80 per cent of all common and voting stock of each includible corporation must be owned directly by one or more of the other includible corporations.

If a consolidated return is filed, the rate of the surtax is increased by 2 per cent of the consolidated taxable income.

Whether or not a consolidated return will be advantageous depends upon the facts in each particular case. For example, a consolidated return may result in a tax advantage where one corporation in the group has a loss and another corporation has a gain. If a consolidated return is filed, the accountant must devise some reasonable basis for allocation of the tax in determining the separate net income of the several corporations of the affiliated group.

CHAPTER NINETEEN

Parent and Subsidiary Accounting (Continued)

Equity method of accounting. If the parent company adopts the equity method of accounting, the investment account will be debited with the cost of the investment and with the parent's share of any increases in the subsidiary's net assets, and credited with the parent's share of any decreases in the subsidiary's net assets. The parent's entries will be made as follows:

For the cost of the stock:

Debit the investment account.
Credit Cash or other appropriate account.

For the parent's share of the subsidiary's net income for the year (or other period):

Debit the investment account.
(Earnings increase the subsidiary net assets; the resulting increase in the parent's equity is recorded by the debit to the investment account.)
Credit an income account, such as Subsidiary Income.

For the parent's share of the subsidiary's net loss for the period:

Debit an account such as Subsidiary Loss.
Credit the investment account.
(Losses decrease the subsidiary net assets; the resulting decrease in the parent's equity is recorded by the credit to the investment account.)

For dividends received from the subsidiary:

Debit Cash.
Credit the investment account.
(Dividends decrease the subsidiary net assets; the resulting decrease in the parent's equity is recorded by the credit to the investment account.)

If time intervenes between the declaration and the payment of the dividend, the parent may debit Dividends Receivable and credit the investment account when the dividend is declared, and may debit Cash and credit Dividends Receivable when the dividend is received.

Illustrative entries. The following entries illustrate the equity-method procedure for recording the facts stated on pages 320 and 321 of Chapter 18:

December 31, 1960:

Company *P* acquired all of the stock of Company *S* for $70,000, which was its book value. The stockholders' equity in Company *S* consisted of capital stock, $50,000, and retained earnings, $20,000.

Investment in stock of Company *S*	70,000	
Cash		70,000

Year 1961:

The net income of Company *S* was $4,000.

Investment in stock of Company *S*	4,000	
Subsidiary income		4,000

The subsidiary paid a $3,000 dividend.

Cash	3,000	
Investment in stock of Company *S*		3,000

Year 1962:

The net income of Company *S* was $9,000.

Investment of stock of Company *S*	9,000	
Subsidiary income		9,000

The subsidiary paid a $4,000 dividend.

Cash	4,000	
Investment in stock of Company *S*		4,000

Appraisal of the equity method. As will be shown by the illustrations in this chapter, the consolidated statements of a parent and subsidiary are not affected by the parent's choice between the cost and equity methods of accounting. The appraisal of the equity method is therefore concerned only with the effect of the method on the parent company's nonconsolidated statements.

In support of the equity method, it may be said that it reflects economic realities:

> The net assets underlying the parent's investment are increased by subsidiary earnings and are decreased by subsidiary losses and dividends. Debiting the investment account with the parent's share of the earnings, and crediting the investment account with the parent's share of losses and dividends, causes the investment account to reflect the changes in the parent's equity in the underlying net assets.
>
> The parent benefits from subsidiary earnings and suffers from subsidiary losses; subsidiary dividends merely convert into cash a portion of the assets underlying the investment. These economic realities are recognized by taking the parent's share of subsidiary gains and losses into its income account and thence into its retained earnings, and by reducing the carrying value of the investment when dividends are received.

The objection to the equity method of accounting (and it is a very serious objection) is that it violates the legal realities, because, by the equity method, the parent's income and retained earnings are affected by subsidiary earnings and losses, although legally the two companies are separate corporate entities and subsidiary earnings are realized by the parent only to the extent of dividends received.

Preferred accounting method. Although no comprehensive statistics are available to show the relative use of the two methods, the cost method is undoubtedly used far more widely than is the equity method. Since the difference in method has no effect on the consolidated statements, the matter of preference relates to the question: Which method produces the most acceptable nonconsolidated statements of the parent company? With this question in mind, almost universal preference is accorded the cost method, because it gives recognition to the legal reality of separate corporate entities and to the cost principle.

Illustrative cases. The four illustrative cases in Chapter 18 are again used in this chapter. Balances in some of the parent company's accounts in the illustrations in this chapter differ from those in the preceding chapter because of the difference in the accounting method employed. Consolidated working papers, equity method, are presented for the following cases:

No minority interest:
- Case A-1: End of first year after acquisition.
- Case A-2: End of second year after acquisition.

Minority interest:
Case B-1: End of first year after acquisition.
Case B-2: End of second year after acquisition.

Consolidated statements are not given; they would not be affected by the parent's choice of accounting method.

Working paper eliminations—Equity method. When the cost method is used, the balance in the parent's investment account is the cost of the subsidiary stock; therefore, eliminations are made on the basis of the book value of the stock at the date of acquisition.

When the equity method is used, the balance in the parent's investment account is the cost of the subsidiary stock plus or minus the parent's percentage of any change in the subsidiary's retained earnings between the date of acquisition and the end of the statement year. Therefore, eliminations are made on the basis of the book value of the subsidiary stock at the end of that year.

In Case A-1, the amounts to be eliminated are:

Book value of subsidiary stock—December 31, 1961:		
Capital stock		$50,000
Retained earnings—December 31, 1961:		
Retained earnings—Beginning of 1961	$20,000	
Net income—1961	4,000	
The subsidiary's $4,000 net income is the balance of its income and expense accounts. It is desirable that they be included in the amounts shown in the consolidated income statement; therefore, instead of eliminating them, the same effect is obtained by eliminating the $4,000 credit balance of the parent's Subsidiary Income account.		
Dividends	3,000*	
Retained earnings—December 31, 1961		21,000
Total		$71,000
Balance in investment account		$71,000

The debit and credit elimination entries, in the sequence in which they appear in the sections of the working papers, are:

	Accounts of Company	Debit	Credit
INCOME STATEMENT:			
Subsidiary income	*P*	4,000	
RETAINED EARNINGS:			
Retained earnings—December 31, 1960	*S*	20,000	
Dividends	*S*		3,000
BALANCE SHEET:			
Investment in stock of Company *S*	*P*		71,000
Capital stock	*S*	50,000	

The eliminations in the other cases are similar in nature.

Such working paper eliminations avoid the duplications that would exist if the statements of the parent and the subsidiary were merely combined.

Case A-1. No minority interest.
End of first year after acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers—For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
Income Statement:								
Sales		195,000		92,000				287,000
Merchandise inventory—December 31, 1960	60,000		45,000				105,000	
Purchases	134,000		73,000				207,000	
Merchandise inventory—December 31, 1961		40,000		48,000				88,000
Expenses	31,000		18,000				49,000	
Subsidiary income		4,000			4,000 A			
Net income—forward	14,000		4,000		4,000		14,000	
	239,000	239,000	140,000	140,000			375,000	375,000
Statement of Retained Earnings:								
Retained earnings—December 31, 1960:								
Company *P*		50,000						50,000
Company *S*				20,000	20,000 A			
Net income—brought forward		14,000		4,000	4,000			14,000
Dividends:								
Company *P*	6,000						6,000	
Company *S*			3,000			3,000 A		
Retained earnings—December 31, 1961—forward	58,000		21,000		24,000	3,000	58,000	
	64,000	64,000	24,000	24,000			64,000	64,000
Balance Sheet:								
Cash	37,000		20,000				57,000	
Accounts receivable	29,000		13,000				42,000	
Merchandise inventory	40,000		48,000				88,000	
Investment in stock of Company *S* (100%)	71,000					71,000 A		
Accounts payable		19,000		10,000				29,000
Capital stock:								
Company *P*		100,000						100,000
Company *S*				50,000	50,000 A			
Retained earnings—brought forward		58,000		21,000	24,000	3,000		58,000
	177,000	177,000	81,000	81,000	74,000	74,000	187,000	187,000

Elimination A—Book value of subsidiary stockholdings at end of year.

Case A-2. No minority interest.
End of second year after acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers—For the Year Ended December 31, 1962

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
INCOME STATEMENT:								
Sales		214,000		133,000				347,000
Merchandise inventory—December 31, 1961	40,000		48,000				88,000	
Purchases	165,000		92,000				257,000	
Merchandise inventory—December 31, 1962		42,000		39,000				81,000
Expenses	37,000		23,000				60,000	
Subsidiary income		9,000			9,000 A			
Net income—forward	23,000		9,000		9,000		23,000	
	265,000	265,000	172,000	172,000			428,000	428,000
STATEMENT OF RETAINED EARNINGS:								
Retained earnings—December 31, 1961:								
Company *P*		58,000						58,000
Company *S*				21,000	21,000 A			
Net income—brought forward		23,000		9,000	9,000			23,000
Dividends:								
Company *P*	6,000						6,000	
Company *S*			4,000			4,000 A		
Retained earnings—December 31, 1962—forward	75,000		26,000		30,000	4,000	75,000	
	81,000	81,000	30,000	30,000			81,000	81,000
BALANCE SHEET:								
Cash	36,500		22,000				58,500	
Accounts receivable	37,500		28,500				66,000	
Merchandise inventory	42,000		39,000				81,000	
Investment in stock of Company *S* (100%)	76,000					76,000 A		
Accounts payable		17,000		13,500				30,500
Capital stock:								
Company *P*		100,000						100,000
Company *S*				50,000	50,000 A			
Retained earnings—brought forward		75,000		26,000	30,000	4,000		75,000
	192,000	192,000	89,500	89,500	80,000	80,000	205,500	205,500

Elimination A—Book value of subsidiary stockholdings at end of year.

Case B-1. 10% Minority interest.
End of first year after acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers—For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories: Company P		Company S		Adjustments and Eliminations		Minority Interest	Consolidated	
Income Statement:									
Sales		195,000		92,000					287,000
Merchandise inventory—Dec. 31, 1960	60,000		45,000					105,000	
Purchases	134,000		73,000					207,000	
Merchandise inventory—Dec. 31, 1961		40,000		48,000					88,000
Expenses	31,000		18,000					49,000	
Subsidiary income—90% of $4,000		3,600			3,600 A				
Minority interest—10% of $4,000							400	400	
Net income—forward	13,600		4,000		3,600		400	13,600	
	238,600	238,600	140,000	140,000				375,000	375,000
Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1960: Company P		50,000							50,000
Company S				20,000	18,000 A		2,000		
Net income—brought forward		13,600		4,000	3,600		400		13,600
Dividends: Company P	6,000							6,000	
Company S			3,000			2,700 A	300*		
Retained earnings—Dec. 31, 1961—forward	57,600		21,000		21,600	2,700	2,100	57,600	
	63,600	63,600	24,000	24,000				63,600	63,600
Balance Sheet:									
Cash	43,700		20,000					63,700	
Accounts receivable	29,000		13,000					42,000	
Merchandise inventory	40,000		48,000					88,000	
Investment in stock of Company S (90%)	63,900					63,900 A			
Accounts payable		19,000		10,000					29,000
Capital stock: Company P		100,000							100,000
Company S				50,000	45,000 A		5,000		
Retained earnings—brought forward		57,600		21,000	21,600	2,700	2,100		57,600
Minority interest							7,100		7,100
	176,600	176,600	81,000	81,000	66,600	66,600		193,700	193,700

* Deduction.

Elimination A—Book value of subsidiary stockholdings at end of year.

Case B-2. 10% Minority interest.
End of second year after acquisition.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers—For the Year Ended December 31, 1962

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
Income Statement:									
Sales		214,000		133,000					347,000
Merchandise inventory—Dec. 31, 1961	40,000		48,000					88,000	
Purchases	165,000		92,000					257,000	
Merchandise inventory—Dec. 31, 1962		42,000		39,000					81,000
Expenses	37,000		23,000					60,000	
Subsidiary income—90% of $9,000		8,100			8,100 A				
Minority interest—10% of $9,000							900	900	
Net income—forward	22,100		9,000		8,100		900	22,100	
	264,100	264,100	172,000	172,000				428,000	428,000
Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1961:									
Company *P*		57,600							57,600
Company *S*				21,000	18,900 A		2,100		
Net income—brought forward		22,100		9,000	8,100		900		22,100
Dividends: Company *P*	6,000							6,000	
Company *S*			4,000			3,600 A	400*		
Retained earnings—Dec. 31, 1962—forward	73,700		26,000		27,000	3,600	2,600	73,700	
	79,700	79,700	30,000	30,000				79,700	79,700
Balance Sheet:									
Cash	42,800		22,000					64,800	
Accounts receivable	37,500		28,500					66,000	
Merchandise inventory	42,000		39,000					81,000	
Investment in stock of Company *S* (90%)	68,400					68,400 A			
Accounts payable		17,000		13,500					30,500
Capital stock: Company *P*		100,000							100,000
Company *S*				50,000	45,000 A		5,000		
Retained earnings—brought forward		73,700		26,000	27,000	3,600	2,600		73,700
Minority interest							7,600		7,600
	190,700	190,700	89,500	89,500	72,000	72,000		211,800	211,800

* Deduction.

Elimination A—Book value of subsidiary stockholdings at end of year.

Arbitrary entries in the investment account. There have been instances in which a parent company has used neither of the methods of accounting described in this text, but has made entries of more or less arbitrary amounts to raise or lower the balance of the investment account to an amount regarded as representing the value of the stock owned. All such entries should be reversed in the working papers. The accounts will then presumably be on a cost basis, and adjustments and eliminations can be made accordingly.

Declared dividends unpaid at date of acquisition. If, at the date of acquisition, a dividend declared by the subsidiary is unpaid, and if the parent becomes a stockholder of record to receive such a dividend payment, the parent's portion of the dividend should be debited to Dividends Receivable and only the remainder of the purchase price should be debited to the investment account.

Decrease in subsidiary net assets below book value at acquisition. The net assets of a subsidiary may be reduced below the amount at acquisition by dividends, losses, or both.

What recognition should be given in the parent's accounts to a decrease in subsidiary net assets since acquisition?

If the parent's accounts are kept by the equity method, the parent's investment and Retained Earnings accounts will be decreased by the parent's percentage of the decrease in subsidiary net assets caused by losses and cash dividends. What should be done if the parent uses the cost method?

Decrease caused by dividends. Suppose that the dividends paid by a subsidiary after the acquisition of its stock by the parent company exceed the subsidiary's net income since that date. How should the parent record the portion of the dividend which was paid from surplus created prior to acquisition?

Although a cash dividend from retained earnings accumulated by a subsidiary prior to acquisition appears to have a legal status of income to the parent company, accountants are in general agreement that a cash dividend paid by a subsidiary to its parent should be regarded as coming from the most recently acquired surplus (*lifo* concept), and that any dividends received by the parent in excess of its share of the subsidiary's earnings since acquisition should be regarded as a partial recovery of cost and be credited to the investment account. This point of view is expressed in the following rule of the Committee on Stock List of the New York Stock Exchange: "Earned surplus of a subsidiary company created prior to acquisition does not form a part of the consolidated earned surplus of the parent company and its subsidiaries; nor can any dividend out of such surplus be credited to the income account of the parent company."

To illustrate the parent's treatment of such a dividend, assume that a 90%-owned subsidiary declared and paid a $3,000 dividend immediately after the acquisition of the stock by the parent. Regardless of whether the parent intends to use the cost or the equity method, its entry should be:

Cash	2,700	
Investment in stock of subsidiary		2,700

Changing the illustration somewhat, assume that the subsidiary paid no dividends during the first year after acquisition and had a net income of $12,000. At the beginning of the second year, it paid a $15,000 dividend. The parent should regard the dividend as consisting of two elements:

$12,000 paid from subsidiary income since acquisition; the parent can take 90% of this amount into income.

$3,000 paid from earnings prior to acquisition; 90% of this amount should be regarded as a return of the investment.

If the parent is using the cost method, its entry should be:

Cash	13,500	
Dividend income		10,800
Investment in stock of subsidiary		2,700

Decrease caused by losses. Assume that during the first year after the acquisition of a 100% interest in a subsidiary, the subsidiary had a net income of $20,000, that it suffered a loss of $30,000 during the second year, and that it paid no dividends during either year.

If the parent uses the equity method, the balance of its investment account and its retained earnings will have been reduced $10,000 by the end of the second year. What entries should the parent make if it uses the cost method?

If the parent uses the cost method, we face a difference of opinion among accountants. Accountants generally believe that, if losses have materially, and apparently permanently, impaired the investment, the investment account should be written down to give recognition to a lost cost. But some accountants would go further and say that "materially and apparently permanently" is not an essential test, and that conservative accounting requires that a parent using the cost method should give recognition in its accounts to an accumulated net loss of the subsidiary since acquisition even though it gives no recognition to subsidiary earnings not distributed in dividends.

If this point of view is adopted, the parent in this illustration would debit Retained Earnings or a special income-statement

account and credit the investment account \$10,000, the amount of the net loss since acquisition.

Decrease caused by losses and dividends. Assume that, during the first year subsequent to the acquisition of a 100% interest in a subsidiary, the subsidiary lost \$5,000 and paid a \$6,000 dividend.

If the parent uses the cost method and adopts the policy of reducing the balance of the investment account for accumulated losses since acquisition, its entries will be:

Retained earnings (or a special income-statement account)	5,000	
Investment in stock of subsidiary		5,000
To reflect subsidiary loss since acquisition.		
Cash	6,000	
Investment in stock of subsidiary		6,000
Dividend received.		

Effect on eliminations. Entries such as the above reduce the investment account below cost. Subsequently, when consolidated working papers are being prepared, it is helpful to show therein that a portion of the retained earnings as of the date of acquisition has been lost and that such decrease in subsidiary net assets has been taken up by the parent company by an entry or entries writing down the investment account. In effect, the retained earnings at acquisition are divided into two parts:

(1) Decrease in retained earnings credited to the investment account.

(2) Balance of the retained earnings at acquisition.

As an illustration of this working paper procedure, consider the following assumed facts:

At acquisition:

Cost of investment in subsidiary—100% interest	\$100,000
Subsidiary stockholders' equity:	
Capital stock	\$ 80,000
Retained earnings	20,000

Entries made by parent company for the decrease in the subsidiary's net assets caused by losses and dividends since acquisition (just illustrated):

Retained earnings (or a special income-statement account)	5,000	
Investment in stock of subsidiary		5,000
Cash	6,000	
Investment in stock of subsidiary		6,000

Assume that after such decreases, the subsidiary earned a net income of \$3,000, with the result that its retained earnings at the beginning of the year are now \$12,000.

The partial working papers on page 353 illustrate the division of the at-acquisition retained earnings and the elimination of the parent's investment.

Stock paid for with noncash assets. If subsidiary stock is paid for with assets other than cash, the investment should be recorded on the parent's books at the fair value of the stock or the fair value of the noncash assets, whichever is the more definitely determinable. Such a transaction may therefore result in the recording of a gain or a loss.

If a fair value is not determinable for either the stock acquired or the assets parted with, it may be necessary to record the investment in the subsidiary stock at the book value of the assets used for payment.

Stock acquired by issuance of parent's stock. The principle stated in the preceding section generally applies also to transactions in which the parent's stock is exchanged for subsidiary stock. The fair value of the parent's stock or of the subsidiary stock, whichever is more definitely determinable, should be the basis for recording the exchange.

Some other basis should not be used merely because the parent company management may be disinclined to recognize a discount in the entry to record the issuance of the parent stock. Nor should another basis be used merely because the general inclination of accountants to be conservative might tend to deter them from setting up a Premium on Stock account on the parent's books, particularly if, in the consolidated balance sheet, the stock premium would be offset by an intangible asset of goodwill.

Holdings of no-par shares. The method of making working paper eliminations is not affected by the fact that the subsidiary's stock is without par value. The elimination from the subsidiary's capital stock account is the parent's percentage of the balance in that account.

Changing from par to no par, or vice versa. If a subsidiary changes from a par to a no-par basis, or vice versa, with no change in the balance of the capital stock account, the accountant is not confronted with any working paper problem.

The situation is different if the balance in the capital stock account is increased by a transfer from retained earnings and if the parent uses the cost-basis method of accounting. Two cases are described below.

Transfer less than retained earnings at date of acquisition. Assume that Company P acquired 80% of the stock of Company S when the latter company had \$200,000 of par value capital stock and \$75,000 of retained earnings. The cost of the stock was 80% of

	Trial Balances and Ending Inventories		Adjustments and Eliminations		Consolidated
	Company *P*	Company *S*			
STATEMENT OF RETAINED EARNINGS:					
Retained earnings—beginning of year:					
Company *S*:					
At acquisition		20,000			
Decrease since acquisition credited to investment account		11,000			
Balance		9,000	9,000 A		
Subsequent increase		3,000			3,000
BALANCE SHEET:					
Investment in stock of subsidiary (100%)—at cost less $11,000 write-down	89,000			89,000 A	
Capital stock:					
Company *S*		80,000	80,000 A		

$275,000, or $220,000. Subsequently, Company *S* changed from a par to a no-par basis and increased the balance in its capital stock account by a transfer of $50,000 of retained earnings. Partial working papers for the preparation of consolidated statements at a still later date, when the retained earnings amounted to $45,000, are at the top of page 355.

The eliminations are:

From retained earnings:	
80% of $25,000 (the portion of retained earnings at acquisition not capitalized)	$ 20,000
From capital stock:	
80% of $250,000	200,000
From the investment account:	
Book value at acquisition—80% of $275,000	220,000

The minority interest in the retained earnings consists of the following:

20% of the $25,000 portion of the retained earnings at acquisition not capitalized	$ 5,000
20% of the $20,000 increase in retained earnings since acquisition	4,000
Total	$ 9,000

The $16,000 of retained earnings extended to the Consolidated columns is the $20,000 increase in subsidiary retained earnings since acquisition minus the minority's $4,000 interest in the $20,000 increase.

Transfer in excess of retained earnings at date of acquisition. Let us now change the illustration by assuming that the subsidiary increased the balance in its capital stock account from $200,000 to $280,000—an increase of $80,000, which had the effect of capitalizing $5,000 of retained earnings accumulated by the subsidiary after the date of acquisition. Partial working papers are at the bottom of page 355.

Since the consolidated retained earnings should include the parent's share of *all* subsidiary earnings accumulated subsequent to the date of acquisition (whether left in the Retained Earnings account or capitalized), the $224,000 elimination from the subsidiary's capital stock account (80% of $280,000) is offset by a $4,000 credit (80% of $5,000 post-acquisition earnings capitalized) to Retained Earnings at the beginning of the period, and by the elimination from the investment account of the $220,000 book value of the subsidiary stockholding at the date of acquisition.

If the parent uses the equity method of accounting, no working paper problems will arise because the parent will have taken into its own retained earnings its share of the earnings of the subsidiary since acquisition.

	Trial Balances and Ending Inventories		Adjustments and Eliminations		Minority Interest	Consolidated
	Company *P*	Company *S*				
Retained Earnings Capitalized Did Not Exceed Retained Earnings at Date of Acquisition						
STATEMENT OF RETAINED EARNINGS:						
Retained earnings—beginning of year:						
Company *S*:						
At acquisition		75,000				
Capitalized when stock changed from par to no-par basis		50,000				
Balance		25,000	20,000 A		5,000	
Increase since acquisition		20,000			4,000	16,000
BALANCE SHEET:						
Investment in stock of Company *S* (80%)—at cost	220,000			220,000 A		
Capital stock:						
Company *S*		250,000	200,000 A		50,000	
Retained Earnings Capitalized Exceeded Retained Earnings at Date of Acquisition						
STATEMENT OF RETAINED EARNINGS:						
Retained earnings—beginning of year:						
Company *S*:						
At acquisition		75,000				
Capitalized when stock changed from par to no-par basis		75,000				
Balance		-0-				
Subsequent increase:						
80% of $5,000 earnings since acquisition capitalized				4,000 A		4,000
Balance—not capitalized		15,000			3,000	12,000
Total						16,000
BALANCE SHEET:						
Investment in stock of Company *S* (80%)—at cost	220,000			220,000 A		
Capital stock:						
Company *S*		280,000	224,000 A		56,000	

Stock dividends. No entry should be made by a parent company for a common-on-common stock dividend received from a subsidiary, except a notation of the number of shares received.

Stock dividends have the same effect on the subsidiary's accounts as that produced by a transfer of retained earnings to capital stock in connection with a change from par to no par or from no par to par. If the parent uses the cost basis of accounting, the working paper procedure would be similar to that shown in the preceding illustrations. If the parent uses the equity method, no working paper problems will arise because the parent will have taken into its own retained earnings its share of the earnings of the subsidiary since acquisition.

Although the inclusion in consolidated retained earnings of a subsidiary's post-acquisition earnings capitalized by a stock dividend is the generally accepted procedure, some opposition opinion has been expressed. It has been contended that the earnings so capitalized can never be made the basis of cash dividends to the parent company unless the stock dividend is rescinded by the subsidiary, and that including such capitalized earnings in the consolidated retained earnings overstates the dividend-paying potential of the parent. The answer to this argument seems to be that the amount of retained earnings shown in a consolidated statement should not be presumed to indicate the retained earnings available for parent company dividends.

It is generally agreed that, if the retained earnings shown in a consolidated statement include a material amount of post-acquisition earnings capitalized by a stock dividend or by a change from par to no par or vice versa, footnote disclosure should be made.

Allocation of decreases in subsidiary retained earnings on *lifo* and *fifo* bases. On page 349, under the caption "Decrease caused by dividends," the following statement was made: "Although a cash dividend from retained earnings accumulated by a subsidiary prior to acquisition appears to have a legal status of income to the parent company, accountants are in general agreement that a cash dividend paid by a subsidiary to its parent should be regarded as coming from the most recently acquired surplus (*lifo* concept), and that any dividends received by the parent in excess of its share of the subsidiary's earnings since acquisition should be regarded as a partial recovery of cost and be credited to the investment account."

In the discussions of the capitalization of retained earnings in connection with a change from par to no-par stock and in connection with stock dividends, the allocation of the decrease in retained earnings was made on the basis of the *fifo* concept. The difference

in procedure is due to the difference in the objectives to be attained.

In the case of cash dividends, the objective is to determine to what extent, if any, the subsidiary's cash dividends since the date of acquisition have exceeded its earnings since that date, because accountants believe that dividends paid from pre-acquisition earnings should not be regarded as income to the parent. The comparison of dividends and earnings *since acquisition* is an application of the *lifo* concept.

If transfers have been made from subsidiary retained earnings to capital stock, the objective is to determine whether any portion of the amount transferred came from earnings accumulated subsequent to acquisition, because such post-acquisition earnings, even though capitalized by the subsidiary, are properly included in the consolidated retained earnings. To determine whether any post-acquisition earnings were capitalized, the amount capitalized is compared with the retained earnings at acquisition—an application of the *fifo* concept.

CHAPTER TWENTY

Parent and Subsidiary Accounting (Continued)

Difference Between Cost of Investment and Book Value at Acquisition

Separate accounts for differences. The preparation of consolidated working papers may be somewhat simplified if the difference between the cost of the investment in the subsidiary stock and its book value at acquisition is carried in a separate account, or at least shown as a separate item in the working papers, thus:

Investment in stock of Company *S*:		
Book value	xxx,xxx	
Excess of cost over book value at acquisition	xx,xxx	

or thus:

Investment in stock of Company *S*:		
Book value	xxx,xxx	
Excess of book value over cost at acquisition		xx,xxx

The book value element is the book value at the date of acquisition if the parent uses the cost method; it is the book value at the balance sheet date if the equity method is used. It is eliminated; the working paper treatment of any excess is discussed below.

Excess of cost over book value. What disposition should be made, in the preparation of consolidated statements, of any excess of the cost of a parent's investment in stock of a subsidiary over the

book value of the stock at the date of acquisition as shown by the accounts of the subsidiary?

For years it was the almost universal practice, generally recognized as acceptable, to show such an excess in the consolidated balance sheet as *goodwill.* In recent years the propriety of this procedure has been questioned, and other treatments have been advocated by the American Accounting Association and the American Institute of Certified Public Accountants.

Adjustments of asset valuations. Showing the entire excess of cost over book value as goodwill may be incorrect because the parent company may have paid more than book value for the stock for various reasons:

The excess may indicate the existence of unrecorded intangibles other than goodwill, such as patents and franchises;

Errors of accounting principle may have been committed by the subsidiary, with the result that its assets are shown at book values less than properly determined cost-basis valuations;

Subsidiary assets may be worth more than cost-basis values.

Going-concern cost-basis valuations, although appropriate for subsidiary statement purposes, are not necessarily proper valuations for consolidated statement purposes. The acquisition of the subsidiary stock may be regarded, from a consolidated standpoint, as comparable to a purchase of subsidiary net assets, and the cost of the stock therefore may be regarded, from a consolidated standpoint, as the price paid by the parent for its interest in the underlying net assets. Since cost is an acceptable accounting basis for assets, there would seem to be no violation of accounting principles if the consolidated balance sheet showed amounts in terms of cost to the parent or controlling company.

For any and all of these reasons, there seems to be much to be said in favor of discontinuing the traditional procedure of applying the title of "Goodwill" to the total excess of cost over book value, and of adopting a procedure of scrutinizing the subsidiary balance sheet valuations to determine the extent, if any, to which the excess should be applied to the valuations of various assets. This does not mean that none of the excess should be shown in the consolidated balance sheet as goodwill; it may be that part or all of the excess payment was made in recognition of the subsidiary's earning power.

Excess not allocated to assets. Accepting the procedure of adjusting subsidiary asset valuations as theoretically desirable, there may be no satisfactory information about the amounts by which such valuations should be adjusted. It may then be necessary to show the excess as a separate item on the asset side of the

consolidated balance sheet, with some title such as "Excess of cost of subsidiary stock over book value thereof at date of acquisition." If portions, but not all, of the excess can be assigned to specific subsidiary assets, the remainder may be shown in the consolidated balance sheet with some caption such as "Portion of excess of cost of subsidiary stock over book value thereof at acquisition not assigned to specific subsidiary assets."

Institute bulletin. *Accounting Research Bulletin* No. 51, issued in August of 1959, states in paragraph 7:

"Where the cost to the parent of the investment in a purchased subsidiary exceeds the parent's equity in the subsidiary's net assets at the date of acquisition, as shown by the books of the subsidiary, the excess should be dealt with in the consolidated balance sheet according to its nature. In determining the difference, provision should be made for specific costs or losses which are expected to be incurred in the integration of the operations of the subsidiary with those of the parent, or otherwise as a result of the acquisition, if the amount thereof can be reasonably determined. To the extent that the difference is considered to be attributable to tangible assets and specific intangible assets, such as patents, it should be allocated to them. Any difference which cannot be so applied should be shown among the assets in the consolidated balance sheet under one or more appropriately descriptive captions. When the difference is allocated to depreciable or amortizable assets, depreciation and amortization policies should be such as to absorb the excess over the remaining life of related assets."

Working paper adjustments of subsidiary assets. Adjustments of subsidiary asset valuations may be made on the subsidiary's books if such adjustments could be made, without violation of generally accepted accounting principles, in the absence of a purchase of a controlling interest in the stock of the subsidiary. Otherwise, the adjustments should be made in the consolidated working papers, as illustrated on page 361. It is assumed that the subsidiary stock was acquired on December 31, 1961, for $75,000.

Adjustments of operating results—Depreciation. Consideration will now be given to the following sentence in the above quotation from A.R.B. No. 51: "When the difference is allocated to depreciable or amortizable assets, depreciation and amortization policies should be such as to absorb the excess over the remaining life of related assets."

If the adjustments of asset valuations are made in the subsidiary's accounts, no problems will arise, since the subsidiary's accounts presumably will show depreciation and amortization on the basis of the adjusted valuations.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
BALANCE SHEET:								
Assets:								
Investment in stock of Company *S* (100%):								
Book value at acquisition	60,000					60,000 A		
Excess of cost over book value	15,000							
Allocated to:								
Land						2,000 B		
Buildings						10,000 C		
Accumulated depreciation—Buildings					2,000 C			
Goodwill						5,000 D		
Land	25,000		10,000		2,000 B		37,000	
Buildings	60,000		25,000		10,000 C		95,000	
Accumulated depreciation—Buildings		12,000		5,000		2,000 C		19,000
Goodwill					5,000 D		5,000	
Liabilities and stockholders' equity:								
Capital stock:								
Company *S*				50,000	50,000 A			
Retained earnings:								
Company *S*:								
At acquisition				10,000	10,000 A			

But if the adjustments of asset valuations are made in the working papers, related adjustments of depreciation and amortization charges will be required in the working papers, and these will affect the subsidiary's net income taken into consolidated net income.

Refer to the partial working papers on page 361, where it is assumed that the subsidiary is wholly owned; adjustments were made of the buildings valuation and the accumulated depreciation. It is assumed that the buildings had an estimated original life of five years; therefore, a 20% depreciation rate was applied by the subsidiary. It also is assumed that the buildings were one year old at the date of the acquisition of the subsidiary stock by the parent company; therefore, they had an estimated remaining life of four years; consequently, a 25% rate must be applied to "absorb the excess [$10,000 added to buildings minus $2,000 added to accumulated depreciation, or $8,000 net] over the remaining life of [the] related assets."

A tabulation showing the required working paper adjustments during the remaining life of the buildings is shown on pages 364 and 365.

It is assumed that the buildings, fully depreciated at the end of 1965, were abandoned on January 1, 1966. The tabulation on page 365 shows the entry per books to record the abandonment.

The last line of the tabulation shows the acquisition adjustment to be made at the end of 1966 and each subsequent year. The $8,000 debit to the subsidiary's retained earnings is made because the $8,000 portion of the excess of the cost of the subsidiary stock over its book value at acquisition, allocated to the net valuation of the buildings, has become a depreciation charge (on a consolidated basis) against the earnings of the subsidiary. Therefore, the retained earnings of the subsidiary at the beginning of 1966 were $8,000 smaller on a consolidated basis than on a per-books basis.

Other adjustments of operating results. If the assets subject to depreciation or amortization are used in manufacture, the cost of goods manufactured will include depreciation or amortization on a per-books basis. The cost of goods manufactured, the cost of goods sold, and the cost of goods remaining in the inventory might require adjustment to include depreciation or amortization on the element of asset cost (consolidated basis) resulting from the allocation of the excess of the cost of the subsidiary stock over its book value at acquisition.

And if profits have been made by the subsidiary on sales to the parent and some of the goods remain in the parent's inventory, the cost of the goods theoretically should include depreciation or amortization of the "excess" for purposes of computing intercompany profit in the inventory.

Adjustments of the nature mentioned in the two preceding paragraphs may be ignored because the amounts are immaterial; or they may be impossible if the amounts are not determinable.

Minority interest. Refer to the partial working papers on page 361 and assume the same facts shown there except that the parent acquired only a 90% interest in the subsidiary stock. The price paid was $67,500, or 90% of the $75,000 paid for a 100% interest. The elements of the cost of the stock are:

Book value at acquisition—90% of $60,000	$54,000
Excess of cost over book value	13,500
Total	$67,500

Should the asset-valuation adjustments be made in the same amounts as those shown under the 100%-owned conditions, or for only 90% thereof?

If the asset adjustments were made on the 100% basis, totaling $15,000, they could not be made entirely by an adjustment credit against the $13,500 excess of cost over book value. The remaining $1,500 would have to be dealt with as an adjustment credit to the minority interest. But, during the long period of time when the excess of cost over book value was allocated to goodwill, the goodwill shown by the consolidated balance sheet was only the amount of the excess paid by the parent company; no adjustment of the minority interest was made. The fact that the excess of cost over book value is allocated to various assets instead of wholly to goodwill does not seem to necessitate a change in this practice; hence, no adjustment is made of the minority interest.

The minority interest in the subsidiary's net income should be based on the net income per books, unaffected by depreciation adjustments such as those shown in the tabulation on pages 364 and 365.

Excess of book value over cost. The traditional treatment for consolidated balance sheet purposes of an excess of the book value, at the date of acquisition, of the subsidiary stock over the cost to the parent company, is stated below:

If goodwill appeared in the balance sheet of the subsidiary whose stock was acquired at less than book value, the excess of book value over cost was applied as a reduction or elimination of the goodwill of the subsidiary.

If no goodwill appeared in the balance sheet of this subsidiary, or if there was a Goodwill account but it was insufficient to absorb the excess of book value over cost, a deduction could be made from any goodwill appearing elsewhere in the working papers: that is, from goodwill in the balance sheet of the

Tabulation of Adjustments
At Acquisition and at End of Each Subsequent Year

	PARENT'S ACCOUNTS	SUBSIDIARY'S ACCOUNTS					
	Balance Sheet Papers	Income Statement Papers	Retained Earnings Papers	Balance Sheet Papers			
	Investment in Stock of Co. *S*—Excess	Depreciation—Buildings	Retained Earnings—Beginning of Year—Increase Since Acquisition	Land	Buildings	Accumulated Depreciation—Buildings	Goodwill
1961							
Per books	15,000			10,000	25,000	5,000*	
Acquisition adjustment	15,000*			2,000	10,000	2,000*	5,000
Adjusted	—			12,000	35,000	7,000*	5,000
1962							
Per books	15,000	5,000		10,000	25,000	10,000*	
Acquisition adjustment	15,000*			2,000	10,000	2,000*	5,000
Adjustment of depreciation charge:							
1962—25% of $8,000		2,000				2,000*	
Adjusted	—	7,000		12,000	35,000	14,000*	5,000
1963							
Per books	15,000	5,000	12,000*	10,000	25,000	15,000*	
Acquisition adjustment	15,000*			2,000	10,000	2,000*	5,000
Adjustment of depreciation charges:							
1962			2,000			2,000*	
1963		2,000				2,000*	
Adjusted	—	7,000	10,000*	12,000	35,000	21,000*	5,000

1964							
Per books	15,000	5,000	24,000*	10,000	25,000	20,000*	
Acquisition adjustment	15,000*			2,000	10,000	2,000*	5,000
Adjustment of depreciation charges:							
1962–63			4,000			4,000*	
1964		2,000				2,000*	
Adjusted	—	7,000	20,000*	12,000	35,000	28,000*	5,000
1965							
Per books	15,000	5,000	36,000*	10,000	25,000	25,000*	
Acquisition adjustment	15,000*			2,000	10,000	2,000*	5,000
Adjustment of depreciation charges:							
1962–64			6,000			6,000*	
1965		2,000				2,000*	
Adjusted	—	7,000	30,000*	12,000	35,000	35,000*	5,000
1966							
January 1—Buildings abandoned:							
Balances per books					25,000	25,000*	
Entry per books for abandonment					25,000*	25,000	
December 31:							
Balances per books	15,000		48,000*	10,000			
Acquisition adjustment—End of 1966 and each subsequent year	15,000*		8,000	2,000			5,000

* Denotes credit.

parent company or any other subsidiary, or so-called goodwill represented by the excess of cost over book value of investments in other subsidiaries.

If the excess of book value over cost could not be absorbed against goodwill elements, the unabsorbed portion was shown in the consolidated balance sheet as Surplus from Consolidation.

It is now coming to be recognized that these procedures are of questionable propriety. If goodwill appears in the balance sheet of the acquired subsidiary, it may be that the goodwill is fairly valued but other assets are overvalued. To apply an excess of book value over the cost of the stock of one subsidiary against goodwill appearing elsewhere in the working papers is subject to question on the grounds that it offsets elements that are related in name only, and that it results in writing off goodwill presumably paid for in other transactions by the parent or other subsidiaries.

Institute bulletin. *Accounting Research Bulletin* No. 51, quoted above in the matter of an excess of cost over book value, contains the following statement in paragraph 8:

"In general, parallel procedures should be followed in the reverse type of case. Where the cost to the parent is less than its equity in the net assets of the purchased subsidiary, as shown by the books of the subsidiary, at the date of acquisition, the amount at which such net assets are carried in the consolidated statements should not exceed the parent's cost. Accordingly, to the extent that the difference, determined as indicated in paragraph 7, is considered to be attributable to specific assets, it should be allocated to them, with corresponding adjustments of the depreciation or amortization. In unusual circumstances there may be a remaining difference which it would be acceptable to show in a credit account, which ordinarily would be taken into income in future periods on a reasonable and systematic basis. A procedure sometimes followed in the past was to credit capital surplus with the amount of the excess; such a procedure is not now considered acceptable."

Working papers. Adjustments in working papers for the year of acquisition and subsequent years are similar, but in reverse, to those shown on page 361 and on pages 364 and 365.

Adjustments of inventory valuations because of downward adjustments of the valuations of assets used in manufacture and subject to depreciation or amortization may be appropriate, for reasons comparable to those stated on page 362 under the caption "Other adjustments of operating results."

Provision for integration costs and losses. The authors are disposed to question the recommendation in the bulletin that a provision should be made for "specific costs or losses which are expected to be incurred in the integration of the operations of the subsidiary with those of the parent, or otherwise as a result of the acquisition." Since the amount of the provision probably would be a matter of estimate not supportable by objective evidence, might not the door be opened for management to favorably manipulate subsequent reports of operations?

Interdiction against credit to capital surplus. Although the Institute's Committee on Accounting Procedure voiced an objection to showing an excess of book value over cost as capital surplus in a consolidated balance sheet, it undoubtedly recognized that it might not be feasible to allocate the excess wholly or even partially in the ways suggested in the bulletin. Presumably there would be no objection to showing such unallocated excess on the credit side of the balance sheet, with some such title as "Book value of subsidiary stock at date of acquisition in excess of cost," or "Portion of excess of book value of subsidiary stock at acquisition over cost not assigned to specific subsidiary assets."

Unallocated excesses shown "broad" or net. If there are several subsidiaries and cost exceeded book value in some instances whereas book value exceeded cost in others, and if all or portions of such excesses cannot be allocated to specific assets, the total of the unallocated cost excesses may be shown on the asset side of the balance sheet and the total of the unallocated book value excesses may be shown on the credit side; or the net amount of the unallocated excesses may be shown in one amount on the appropriate side of the balance sheet.

Asset adjustments subsequent to acquisition. Assume that, when consolidated statements were first prepared, no satisfactory information was available to permit assigning the difference between cost and book value at acquisition to specific assets, and that the difference was shown in the consolidated balance sheet as an excess of cost over book value or as an excess of book value over cost. Assume, further, that such information as of the date of acquisition was developed later, and was to be made the basis for the allocation of the difference between cost and book value to specific assets in subsequent consolidated balance sheets. Regardless of whether the asset valuation adjustments are made on the subsidiary's books or in the consolidated working papers, it is obvious that the consolidated balance sheet should not show assets at adjusted valuations and also show the total difference between cost and book value at acquisition as a balance sheet item. If the

use of the post-acquisition information causes material differences between amounts shown in consolidated statements issued before and after such use, it might be desirable to append footnotes to the consolidated statements stating the reasons for the differences.

Statement Working Papers

Working papers prepared from statements. Consolidated working papers previously illustrated were prepared from parent company and subsidiary trial balances. Subsidiaries frequently furnish their statements to the parent company; in such cases, the working papers can be prepared from the statements.

Working papers prepared from company statements are illustrated on pages 369 and 370. Observe the following differences between these working papers and those previously illustrated:

Features peculiar to statement working papers:

The *essential* difference between statement papers and trial balance papers is: Since the data in the Company columns are presented in statement sequence, the data in the Consolidated column appear in statement sequence, thus facilitating the preparation of the consolidated statements.

If the working papers are prepared from trial balances, a pair of debit and credit columns is needed for each company and for the consolidated data. If the working papers are prepared from statements, a single column *may* be used for the statements of each company and for the consolidated statements. Pairs of columns, instead of single columns, may be used if it is not important to limit the width of the working papers.

Procedure that can be used in trial balance papers also:

Details accounting for the cost of goods sold are omitted.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1962

	Statements		Adjustments and Eliminations		Minority	
	Company *P*	Company *S*			Interest	Consolidated
INCOME STATEMENT:						
Sales	214,000	133,000	10,000 A			337,000
Cost of goods sold	163,000	101,000		10,000 A		254,000
Gross profit on sales	51,000	32,000				83,000
Expenses	37,000	23,000				60,000
Net income from operations	14,000	9,000				23,000
Dividend from subsidiary	3,600		3,600 B			
Minority interest—10% of $9,000					900	900
Net income—forward	17,600	9,000	13,600	10,000	900	22,100
STATEMENT OF RETAINED EARNINGS:						
Retained earnings—Dec. 31, 1961:						
Company *P*	56,700					56,700
Company *S*:						
At acquisition		20,000	18,000 C		2,000	
Increase to Dec. 31, 1961		1,000			100	900
Total	56,700	21,000				57,600
Net income—brought forward	17,600	9,000	13,600	10,000	900	22,100
Total	74,300	30,000				79,700
Dividends:						
Company *P*	6,000					6,000
Company *S*		4,000		3,600 B	400*	
Retained earnings—Dec. 31, 1962—forward	68,300	26,000	31,600	13,600	2,600	73,700

COMPANY P AND SUBSIDIARY
Consolidated Working Papers (Concluded)
For the Year Ended December 31, 1962

	Statements		Adjustments and Eliminations		Minority	
	Company *P*	Company *S*	Dr.	Cr.	Interest	Consolidated
BALANCE SHEET:						
Assets:						
Cash	42,800	22,000				64,800
Accounts receivable	38,500	29,000				67,500
Allowance for doubtful accounts	1,000*	500*				1,500*
Merchandise inventory	42,000	39,000				81,000
Investment in stock of Co. *S* (90%)	63,000			63,000 C		
	185,300	89,500				211,800
Liabilities and stockholders' equity:						
Accounts payable	17,000	13,500				30,500
Capital stock:						
Company *P*	100,000					100,000
Company *S*		50,000	45,000 C		5,000	
Retained earnings—brought forward	68,300	26,000	31,600	13,600	2,600	73,700
Minority interest					7,600	7,600
	185,300	89,500	76,600	76,600		211,800

* Deduction.

Adjustments and Eliminations

A—Intercompany sales.
B—Intercompany dividend.
C—Book value of subsidiary stock at acquisition.

Adjusting Company Statements

If the company statements submitted for preparation of consolidated working papers are incorrect because of omissions or errors in the accounts, it may be preferable to adjust the statement amounts before preparing the consolidated working papers. A preliminary work sheet, such as the one on page 373, may be used for this purpose.

In the illustration, it is assumed that Company *P* owns all of the stock of Company *S*, and that consolidated statements are to be prepared for the year ended December 31, 1962.

Adjustments of subsidiary's statements. Shortly before the end of the year, Company *P* made a $4,000 sale to Company *S* which was not recorded on the books of the subsidiary:

(A) Purchases	4,000	
Company *P*		4,000

The goods were not included in the subsidiary's inventory.

(B) Inventory (Balance Sheet section)	4,000	
Inventory—Dec. 31, 1962 (Income Statement section)		4,000

Company *P* acts as a selling agent for Company *S* on a commission basis. On December 31, 1962, Company *P* charged Company *S* $1,000 as a commission on sales made during December, but this commission expense and liability were not recorded on the books of Company *S*.

(C) Sales commission expense	1,000	
Company *P*		1,000

Adjustments of parent's accounts—Cost basis. On December 31, 1962, Company *S* declared a $3,000 dividend, payable in 1963. No entry was made by the parent.

(D) Dividends receivable	3,000	
Dividend income		3,000

Company *P* owns $40,000 par value of bonds of Company *S*; interest accrued on December 31, 1962, has been recorded by the subsidiary but not by the parent.

(E) Accrued bond interest receivable	1,200	
Bond interest income		1,200

Adjustments of parent's books—Equity basis. The subsidiary's net income for 1962 per its books was taken up by the parent company by a debit to Investment in Stock of Company *S* and a credit to Income from Company *S*. But the net income of Company *S* was overstated $1,000 because of the omission of $1,000 of sales commission expense.

(C) Income from Company S	1,000	
Investment in stock of Company S		1,000

Under the equity method, the parent credits subsidiary dividends to the investment account. The adjustment for the unrecorded dividend is:

(D) Dividends receivable	3,000	
Investment in stock of Company S		3,000

The adjustment for the accrued bond interest is the same under the equity method as under the cost method.

(E) Accrued bond interest receivable	1,200	
Bond interest income		1,200

Of course, if a preliminary work sheet is not used, the corrections will have to be made in the Adjustments and Eliminations columns of the consolidated working papers; if there is a minority interest, any corrections affecting the subsidiary's net income will have to be given consideration in the computation of the minority interest in the net income. The decision regarding the use of a preliminary work sheet will be influenced by the number and complexity of the required adjustments.

Some Special Minority Interest Matters

Minority interest; subsidiary deficit. Most accountants are of the opinion that, if a subsidiary has a deficit, the minority interest should be shown at an amount equal to the minority's share of the capital stock of the subsidiary minus its share of the subsidiary deficit at the date of the consolidated balance sheet. Some accountants, however, would show the minority interest at an amount equal to the minority's interest in the capital stock of the subsidiary without deduction of the minority's share of the deficit. This position seems to be untenable.

If the minority share of the subsidiary deficit is not treated as a deduction in determining the minority interest, it must be treated as a deduction in determining the consolidated retained earnings. Accountants who advocate such a procedure defend it on the theory that, while the minority will share in subsidiary earnings, the parent company will be obliged to "absorb the losses" of the subsidiary.

Although it is true that the subsidiary may be such an essential part of the organization that the parent company will consider it expedient to retain its ownership of the stock in spite of losses, it does not seem necessary for the parent company to assume the magnanimous position of allowing the minority stockholders to

Preliminary Work Sheet for Adjustment of Statements

	Per Statements		Adjustments		Adjusted	
Accounts of Company *S*						
INCOME STATEMENT:						
Purchases	175,000		4,000 A		179,000	
Inventory—Dec. 31, 1962		30,000		4,000 B		34,000
Sales commission expense	7,500		1,000 C		8,500	
BALANCE SHEET:						
Inventory—Dec. 31, 1962	30,000		4,000 B		34,000	
Company *P*		12,000		4,000 A 1,000 C		17,000
Accounts of Company *P*—Cost Basis						
INCOME STATEMENT:						
Dividend income		—		3,000 D		3,000
Bond interest income		1,200		1,200 E		2,400
BALANCE SHEET:						
Dividends receivable	—		3,000 D		3,000	
Accrued bond interest receivable	—		1,200 E		1,200	
Accounts of Company *P*—Equity Basis						
INCOME STATEMENT:						
Income from Company *S*		8,000	1,000 C			7,000
Bond interest income		1,200		1,200 E		2,400
BALANCE SHEET:						
Dividends receivable			3,000 D		3,000	
Accrued bond interest receivable			1,200 E		1,200	
Investment in stock of Company *S*	110,000			1,000 C 3,000 D	106,000	

The amounts in the Adjusted columns would be entered in the columns in which the statement information appears in the consolidated working papers.

share in subsidiary earnings while relieving them of any reduction in the book value of their stock caused by subsidiary losses. Losses reduce the value of all shares proportionately. If the subsidiary becomes unable to pay its debts, the parent company may advance the funds necessary to prevent the creditors from forcing the subsidiary into liquidation; but, even in such an extreme case, there seems to be no reason why the parent should relieve the minority stockholders of their share of the subsidiary loss, so long as losses do not exceed the capital stock and the minority stockholders have an equity in the capital stock, from which their share of losses can be deducted.

To show why this is so, let us assume that a subsidiary's losses have resulted in a deficit equal to the capital stock, and that the parent company has not seen fit to make advances in order to keep the business out of the hands of the creditors. The creditors therefore take possession, and the parent company loses its stock and the minority stockholders lose theirs. But the parent company does not bear the minority's loss.

On the other hand, assume that the parent company has made advances, so that the subsidiary's condition is as follows:

Subsidiary Balance Sheet

Net assets	$ 50,000	Advances from parent	$ 50,000
Deficit	100,000	Capital stock	100,000

The parent company may now take over the assets of the subsidiary in settlement of the advances; the parent company loses its portion of the stock and the minority stockholders lose theirs.

The purpose of a balance sheet is to show the financial condition of a business organization. It appears that a consolidated balance sheet fulfills this purpose if it shows all of the assets and liabilities of the related companies and the interests of the parent company and of the minority stockholders in these net assets. Regardless of what the parent company may have to do in the future, it cannot be denied that the book value of the minority's interest in the net assets of the organization is measured by the minority's percentage of the subsidiary's capital stock and retained earnings or deficit.

Accounting Research Bulletin No. 51 takes the reasonable position that subsidiary losses should not be charged against the minority interest to the extent of reducing it to a minus quantity.

Detailing minority interests. Custom differs with regard to the detailing of minority interests in the consolidated balance sheet. The following procedures are used:

The minority interest in each subsidiary is shown in detail as to capital stock and surplus elements.

The minority interest in each subsidiary is shown in total, without detail as to elements.

The total of all minority interests is shown in one amount.

The minority stockholders should not look to consolidated statements for information relative to their investments, but should look to the statements of the subsidiaries. For this reason, it seems that the detailing of minority interests would be of little benefit to the minority stockholders.

However, the investing public may be interested in knowing how much the assets of the consolidation can be reduced by dividend payments to minority stockholders. It is perhaps for this reason that the Securities and Exchange Commission requires that "a separation shall be made between the minority interest in the capital and in the surplus."

CHAPTER TWENTY-ONE

Parent and Subsidiary Accounting (Continued)

Intercompany Profits in Inventories

Elimination of intercompany profits. If, after the date of affiliation, one of the affiliated companies sells goods to another affiliated company at a profit, and some or all of the goods remain in the purchasing affiliate's inventory at the end of the accounting period, the intercompany profit should be excluded from

The earnings shown by the consolidated income statement;
(A parent and its subsidiary are regarded, for consolidated statement purposes, as departments of a single business; no profit is realized by transfers of goods from one department to another.)

The inventory valuation shown in the consolidated balance sheet.
(Inventories should not be valued in excess of cost; costs to a consolidated group are incurred by dealings with outsiders, not by dealings between members of the group.)

Per cent of intercompany profit to be eliminated. There has long been a unanimity of opinion that 100% of the intercompany profit should be eliminated if the intercompany sale was made by the parent or a wholly-owned subsidiary. Differences of opinion have existed regarding the percentage of intercompany profit to be eliminated if the intercompany sale was made by a subsidiary with

a minority interest. For instance, if the sale was made by a 90%-owned subsidiary, many accountants have advocated that only 90% of the intercompany profit should be eliminated. The American Institute and the American Accounting Association have now gone on record as of the opinion that 100% of the intercompany profit should be eliminated in order to reduce the inventory valuation to cost to the consolidation.

The following general rule may therefore be stated: Eliminate 100% of all intercompany profits regardless of the existence of a minority interest in a subsidiary that was a party to the intercompany transaction.

Treatment in consolidated working papers. Illustrative working papers showing the mechanics of making eliminations of intercompany profits in inventories in accordance with the recommendations of the Institute and the Association are shown on pages 379, 380, and 381. It is assumed that the parent acquired its stock interest in the subsidiary on January 1, 1961 at book value, and that the subsidiary had no retained earnings on that date.

The illustrative cases embrace the following situations:

Case A—Sales made by parent to subsidiary (whether wholly or partially owned):

1961—Profit in ending inventory;
1962—Profits in beginning and ending inventories.

Case B—Sales by 100%-owned subsidiary (to parent or another subsidiary):

1961—Profit in ending inventory;
1962—Profits in beginning and ending inventories.

Case C—Sales made by subsidiary with a minority interest:

1961—Profit in ending inventory;
1962—Profits in beginning and ending inventories.

Observe the following matters relative to all of the illustrations:

Although the existence of intercompany profits in inventories presupposes the existence of intercompany sales, eliminations for such sales are not shown; they are not needed to illustrate the eliminations of intercompany profits.

Intercompany profits in inventories were:

December 31, 1961—$ 800.
December 31, 1962—$1,100.

Elimination A—Intercompany profit in ending inventory ($800 in 1961 papers; $1,100 in 1962 papers):

Since the inventory is shown in the Income Statement papers as a credit, the profit is eliminated by a debit.

Since the inventory is shown in the Balance Sheet papers as a debit, the profit is eliminated by a credit.

Elimination B—Intercompany profit in beginning inventory ($800 in 1962 papers):

Since this inventory is shown in the Income Statement papers as a debit, the profit is eliminated by a credit.

The elimination of this profit in the 1961 working papers caused a reduction in the consolidated net income for that year, and consequently in the consolidated retained earnings at the end of the year. A similar reduction in the retained earnings on December 31, 1961 must be made in the 1962 papers by a debit. The debit is made against the retained earnings of the parent or the subsidiary—whichever company made the intercompany profit.

Case B—Sales made by a wholly-owned subsidiary to parent or to another subsidiary—wholly or partially owned. The working papers for 1961 would be identical with those in Case A.

The working papers for 1962 would be the same as those in Case A with one exception: since it is now assumed that the intercompany profit was made on sales by the subsidiary, the elimination of the profit in the inventory on December 31, 1961 (the beginning of the statement year), in the Retained Earnings section of the working papers, would be made from the subsidiary's retained earnings on that date instead of from the parent's retained earnings. The elimination would be made as follows:

	Trial Balances and Ending Inventories Company *S*	Adjustments and Eliminations
RETAINED EARNINGS:		
Retained earnings—Dec. 31, 1961:		
Company *S*:		
At acquisition	—	
Increase to Dec. 31, 1961	8,500	800

Case C—Sales made by a subsidiary with a 10% minority interest. Working papers are on pages 380 and 381.

The eliminations of intercompany profits would not be affected by the existence of a minority interest. (*Continued on page 382.*)

Case A—Sales made by parent to subsidiary—wholly or partially owned.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	Company *P*		Company *S*					
Year Ended December 31, 1961								
Profit in Ending Inventory Only								
INCOME STATEMENT:								
Inventory—Dec. 31, 1960	20,000		15,000				35,000	
Inventory—Dec. 31, 1961		22,000		16,000	800 A			37,200
BALANCE SHEET:								
Inventory—Dec. 31, 1961	22,000		16,000			800 A	37,200	
Year Ended December 31, 1962								
Profits in Beginning and Ending Inventories								
INCOME STATEMENT:								
Inventory—Dec. 31, 1961	22,000		16,000			800 B	37,200	
Inventory—Dec. 31, 1962		23,000		17,500	1,100 A			39,400
STATEMENT OF RETAINED EARNINGS:								
Retained earnings—Dec. 31, 1961:								
Company *P*		59,500			800 B			58,700
BALANCE SHEET:								
Inventory	23,000		17,500			1,100 A	39,400	

Adjustments and Eliminations

A—Intercompany profit in end-of-year inventory.
B—Intercompany profit in beginning-of-year inventory.

Case C—Sale made by subsidiary with a 10% minority interest.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers

Year Ended December 31, 1961 Profit in Ending Inventory Only	Trial Balances and Ending Inventories Company *P*		Company *S*		Adjustments and Eliminations		Minority Interest	Consolidated	
INCOME STATEMENT:									
Sales		85,000		70,000					155,000
Inventory—Dec. 31, 1960	20,000		15,000					35,000	
Purchases	70,000		55,000					125,000	
Inventory—Dec. 31, 1961		22,000		16,000	800 A				37,200
Expenses	8,000		7,500					15,500	
Minority interest—10% (8,500 − 800)							770	770	
Net income	9,000		8,500		800		770	15,930	
	107,000	107,000	86,000	86,000				192,200	192,200
BALANCE SHEET:									
Inventory	22,000		16,000			800 A		37,200	

Year Ended December 31, 1962
Profits in Beginning and Ending Inventories

INCOME STATEMENT:									
Sales		105,000		90,000					195,000
Inventory—Dec. 31, 1961	22,000		16,000			800 B		37,200	
Purchases	88,000		72,000					160,000	
Inventory—Dec. 31, 1962		23,000		17,500	1,100 A				39,400
Expenses	8,500		10,700					19,200	
Minority interest—10% (8,800 + 800 − 1,100)							850	850	
Net income—forward	9,500		8,800		1,100	800	850	17,150	
	128,000	128,000	107,500	107,500				234,400	234,400
STATEMENT OF RETAINED EARNINGS:									
Retained earnings—Dec. 31, 1961:									
Company *P*		59,500							59,500
Company *S*:									
At acquisition				—					
Increase to Dec. 31, 1961				8,500	800 B		770		6,930
Total									66,430
Net income—brought forward		9,500		8,800	1,100	800	850		17,150
Retained earnings—Dec. 31, 1962	69,000		17,300		1,900	800	1,620	83,580	
	69,000	69,000	17,300	17,300				83,580	83,580
BALANCE SHEET:									
Inventory	23,000		17,500			1,100 A		39,400	

Adjustments and Eliminations

A—Intercompany profit in end-of-year inventory.
B—Intercompany profit in beginning-of-year inventory.

The only new feature is the recognition of the intercompany profit in the computation of the minority interest in the subsidiary's net income and its retained earnings at the beginning of the statement year.

The minority interest in the subsidiary's net income for 1961 is 10% [$8,500 (net income per books) − $800 (intercompany profit in end-of-year inventory)], or 10% of $7,700, or $770.

The minority interest in the subsidiary's net income for 1962 is: 10% of the subsidiary's net income per books minus 10% of the increase in intercompany profits in inventories; the computation is shown in the Income Statement papers as 10% [$8,800 (net income per books) + $800 (profit in beginning inventory) − $1,100 (profit in ending inventory)], or 10% of $8,500, or $850.

The $770 shown in the Minority Interest column of the Statement of Retained Earnings section of the 1962 working papers is 10% of [$8,500 (the increase in the subsidiary's retained earnings between the date of acquisition and the beginning of the statement year) − $800 (the intercompany profit in the inventory at the beginning of the statement year)]. Amounts to be shown in working papers for subsequent years would be similarly computed.

The immediately preceding case indicates that if profits are made on intercompany sales made by a subsidiary with a minority interest, the elimination of any intercompany profit affects the consolidated and minority interests in the selling subsidiary's net income as follows:

Consolidated interest:
  Intercompany profit times parent's per cent of interest in selling subsidiary.
Minority interest:
  Intercompany profit times minority's per cent of interest in selling subsidiary.

This rule applies equally to situations such as the following: Company *P* (the parent) owns merchandise that it bought from 90%-owned Company *S*, which made a profit of $10,000 on the sale; furthermore, Company *S* acquired the merchandise from Company *T* (75% owned by Company *P*), which had made a profit of $8,000 on the sale. The elimination of the intercompany profits affects consolidated net income and minority interests as follows:

	Consolidated Earnings	Minority Interests Company *S*	Minority Interests Company *T*
$10,000 profit made by Company *S* —90% and 10%	$9,000	$1,000	
$ 8,000 profit made by Company *T* —75% and 25%	6,000		$2,000

Should gross or net profit be eliminated? Should the amount of the intercompany profit to be eliminated be based on the gross profit or the net profit of the selling affiliate? The gross profit is the generally accepted basis. It has been suggested by some accountants that the amount of the deduction should be determined by using the selling affiliate's ratio of net income to sales rather than its rate of gross profit. Such a procedure definitely appears to be improper. The object of the intercompany profit elimination is to reduce the inventory valuation to cost to the consolidated group; the use of the net income rate would produce a smaller inventory deduction than would be produced by the use of the gross profit rate; in other words, if the net income rate were used, some of the selling affiliate's selling and administrative expenses would be included improperly in the inventory valuation in the consolidated statements.

Inventoriable transportation costs. The fact that intercompany profits should be eliminated from inventories does not mean that the inventoriable cost to the purchasing affiliate necessarily should be the same as the cost to the selling affiliate. Costs of transportation-in (whether paid by the purchasing or selling affiliate) and any other properly inventoriable costs may be included in the inventory valuation.

Market write-downs and intercompany profit deductions. If inventory valuations of goods acquired from affiliated companies have been reduced from purchase cost to market and the amount of the reduction is the same as, or greater than, the reduction that would have been made for intercompany profit, the inventory valuation will be equal to or less than the cost to the selling affiliate, and no further reduction in the valuation need be made.

If the market write-down was less than the amount of intercompany profit, a working paper adjustment will be required, but *only* for the intercompany profit not eliminated by the market write-down. For instance, assume that goods that cost one affiliate \$8,000 were sold to another affiliate for \$9,000 and that they were inventoried at market, \$8,300. The working paper adjustment for intercompany profit would be in the amount of \$300. Such adjustments would be made, and minority interests in subsidiaries' net income would be computed, in accordance with the procedures discussed and illustrated on preceding pages.

Intercompany sales at a loss. Consistency seems to require that, since inventories should be reduced by the amount of any intercompany profit, they should be increased by the amount of any intercompany loss. *Accounting Research Bulletin* No. 51, previously quoted in Chapter 20, supports this position. Adjustments

comparable to those illustrated on pages 379 and 380–381 would be made, but the inventories would be increased instead of decreased. If the sale was made by a subsidiary with a minority interest (say, 10%), the minority interest in the subsidiary's earnings would be 10% of (the subsidiary's net income per books plus any intercompany loss in the ending inventory and minus any intercompany loss in the beginning inventory).

With respect to inventory mark-downs for market declines, assume that goods that cost one affiliate $10,000 were sold to another affiliate for $9,000; that these goods remained in the purchasing affiliate's inventory; and that they were valued at market, $8,500. Since the inventory was stated in accordance with the cost-or-market rule, at a valuation less than cost to the group, no working paper adjustment should be made.

Profits from sales before affiliation. If the inventories contain goods that were sold by one company to another prior to their affiliation, should a deduction be made for intercompany profit? There is a difference of opinion among accountants on this question. Some believe that a deduction should be made; a survey published by the American Institute in 1956 indicated that this was the prevailing practice. The authors believe that this procedure is incorrect, for reasons stated below.

If the profit was made by a company which subsequently became a subsidiary, the profit will not have found its way into the consolidated retained earnings, and there seems to be no justification for taking out of the consolidated retained earnings something that never went there. Also, a reduction in the inventory valuation at the date of affiliation would result in an addition to the consolidated net income after affiliation; in other words, it would throw into consolidated net income subsequent to affiliation a profit made by one of the companies on a transaction which occurred before affiliation. And finally, a reduction in the subsidiary's inventory and retained earnings at the date of acquisition would result in a reduction in the book value of the subsidiary at the date of acquisition, and thus distort the relation between the cost of the investment and its book value at acquisition. As a consequence, the deduction from the inventory valuation might be offset by an improper addition to the valuation of some other subsidiary asset.

If the profit was made by the company which subsequently became the parent, one might take the position that, from a consolidated standpoint, the parent was reacquiring its merchandise, and any profit on the prior sale should be cancelled upon the reacquisition. Moreover, the elimination of the profit made on the sale prior to acquisition would not be subject to the objection

that consolidated retained earnings would be reduced by an element of profit that never had entered into consolidated retained earnings; the profit would be in the parent's retained earnings and hence would become an element of the consolidated retained earnings after affiliation. Nevertheless, a deduction seems improper because it would result in including in consolidated net income subsequent to acquisition a profit which was reported in the parent's income statement for a period prior to affiliation.

Income taxes paid on intercompany profits. It may happen that income taxes will have been paid on profits arising from the sale of goods remaining in the possession of a company within the consolidated family. When this occurs, from the point of view of the consolidated group the income tax charge has preceded the realization of the profit, because the goods have not as yet reached outsiders.

In some cases, such "prepaid" income tax amounts may not be significant and, therefore, may be ignored. When they are significant, it is considered acceptable to reduce the amount of intercompany profit by the related income tax element. Otherwise, the net income shown in the consolidated statements will be understated as a result of the removal of intercompany profit and the retention of the related tax charge. To illustrate, assume that there is an intercompany gross profit of $10,000 to be eliminated as a result of $20,000 of sales by a parent to a subsidiary. Assume further that the parent, while making a gross profit of 50%, makes a net profit before income taxes of 10% on sales. Thus, the income subject to the income tax and attributable to the intercompany transaction which led to the unrealized intercompany profit would amount to 10% of $20,000, or $2,000. If the income tax rate is 40%, the intercompany profit to be eliminated in the preparation of consolidated statements would be:

Intercompany gross profit	$10,000
Related income tax	800
Elimination for intercompany profit—net of taxes	$ 9,200

If the parent and subsidiary companies elect to file their income tax returns on a consolidated basis, the above problem will not arise.

Affiliation Structures

Father and son affiliations. The reader is already familiar with father and son affiliations such as the one diagrammed in Chart 1. The affiliation structure shown by Chart 2 is of a similar nature.

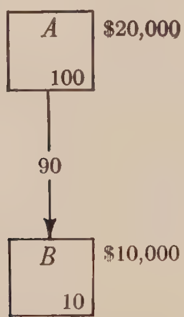

Chart 1.
Father and Son

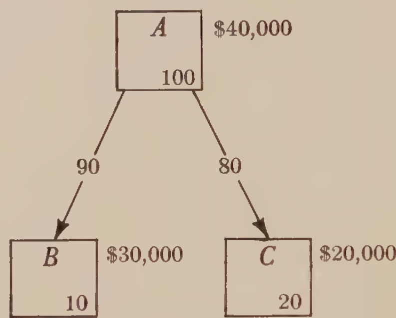

Chart 2.
Father and Sons

The arrows indicate the direction in which control is exercisable, and the number in the break in an arrow shows the per cent of ownership in the company to which the arrow points. The number in a company box indicates the per cent of that company's stock owned by outsiders. The net income of each company is shown at the side of its box.

Income apportionment. The following table shows the apportionment of the net income of the parent and subsidiaries in Chart 2. Since Chart 2 is more comprehensive than Chart 1, it alone will suffice for purposes of illustration. The letters "CNI" signify consolidated net income; the letters "mB" and "mC" signify the minority interests in Companies *B* and *C*.

Apportionment of Net Income of Companies A, B, and C
to Consolidated Net Income and Minority Interests

Apportionment of Net Income				Amounts Apportioned to		
					Minority Interests	
Of	To	Per Cents	Proof by Companies	Consolidated Net Income	Company *B*	Company *C*
Company *A*	CNI	100%	$40,000	$40,000		
Company *B*	CNI	90%	$27,000	27,000		
	mB	10	3,000		$3,000	
Total Company *B*		100%	$30,000			
Company *C*	CNI	80%	$16,000	16,000		
	mC	20	4,000			$4,000
Total Company *C*		100%	$20,000			
Total.			$90,000	$83,000	$3,000	$4,000

The reader is also familiar with the method of computing the minority interest in the net income of a subsidiary if it made profits on sales of goods remaining in the inventory of an affiliated company. For instance, refer to Chart 2 and assume that there were intercompany profits resulting from sales by Company *B* as follows:

In inventory at the beginning of the year	$1,000
In inventory at the end of the year	1,500

Then the minority interest of Company *B* in the net income of that company would be:

$$10\% \text{ of } (\$30{,}000 + \$1{,}000 - \$1{,}500) = \$2{,}950$$

Father, son, and grandson affiliations. Charts 3 and 4 show father, son, and grandson affiliations. The son companies, *B* and *D*, are minor parents: each holds a controlling interest in a grandson company.

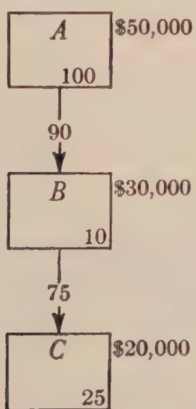

Chart 3.
Father, Son, and Grandson

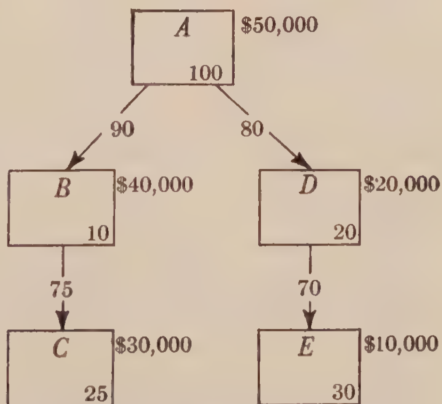

Chart 4.
Father, Sons, and Grandsons

Income apportionment. Since Chart 4 is the more comprehensive, it will be used for illustrative purposes. The income apportionment is shown on page 388.

Apportionment of Net Income of Companies A, B, C, D, and E to Consolidated Net Income and Minority Interests

Apportionment of Net Income					Amounts Apportioned to				
						Minority Interests			
Of	To	Per Cents		Proof by Companies	Consolidated Net Income	Company *B*	Company *C*	Company *D*	Company *E*
Company *A*	CNI		100%	$ 50,000	$ 50,000				
Company *B*	CNI		90%	$ 36,000	36,000				
	mB		10	4,000		$4,000			
Total Company *B*			100%	$ 40,000					
Company *C*	CNI	90% of 75% =	67.5%	$ 20,250	20,250				
	mB	10% of 75% =	7.5	2,250		2,250			
	mC		25.0	7,500			$7,500		
Total Company *C*			100.0%	$ 30,000					
Company *D*	CNI		80%	$ 16,000	16,000				
	mD		20	4,000				$4,000	
Total Company *D*			100%	$ 20,000					
Company *E*	CNI	80% of 70% =	56%	$ 5,600	5,600				
	mD	20% of 70% =	14	1,400				1,400	
	mE		30	3,000					$3,000
Total Company *E*			100%	$ 10,000					
Total.				$150,000	$127,850	$6,250	$7,500	$5,400	$3,000

Connecting affiliates. In the structure shown in Chart 5, part of Company *A*'s control of Company *C* is exercised through Company *B*. However, Company *B* cannot properly be called a minor parent because it does not own a controlling interest in Company *C*. It is only a connecting affiliate.

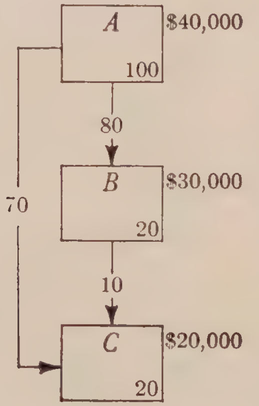

Chart 5.
Control Direct and Through
Connecting Affiliate

Income apportionment. The income apportionment for Chart 5 is shown on page 390.

Illustrative working papers. Working papers dealing with a father, son, and grandson relationship (Chart 3) are presented on pages 394 and 395. Similar procedures could be applied to a Chart 4 relationship.

It is assumed that Company *B* acquired its 75% interest in the stock of Company *C* on December 31, 1959, at which date Company *C*'s retained earnings were $12,000.

It is also assumed that Company *A* acquired its 90% interest in the stock of Company *B* on December 31, 1960; at that date, Company *B*'s retained earnings, exclusive of its interest (on a consolidated basis) in the increase in Company *C*'s retained earnings during 1960, were $20,000.

Schedule 1, on page 391, shows the amounts of intercompany profits in the inventories at the beginning and end of 1962, the amounts of net income for 1962 after adjustments for intercompany profits, and the portions thereof to be shown in the Income Statement section of the consolidated working papers as minority interests and consolidated net income. (*Continued on page 390.*)

Apportionment of Net Income of Companies A, B, and C
to Consolidated Net Income and Minority Interests

Apportionment of Net Income: Of	To	Per Cents			Proof by Companies	Amounts Apportioned to: Consolidated Net Income	Minority Interests: Company *B*	Company *C*
Company *A*	CNI			100%	$40,000	$40,000		
Company *B*	CNI			80%	$24,000	24,000		
	mB			20	6,000		$6,000	
Total Company *B*				100%	$30,000			
Company *C*	CNI	Direct	70%					
		Through Company *B*— 80% of 10%	8	78%	$15,600	15,600		
	mB	20% of 10%		2	400		400	
	mC			20	4,000			$4,000
Total Company *C*				100%	$20,000			
Total...............					$90,000	$79,600	$6,400	$4,000

Schedule 2, on pages 392 and 393, is an analysis of the retained earnings of the two subsidiaries, showing the portions of their retained earnings on December 31, 1961 to be:

Eliminated as elements of the book values of the investments at the dates of acquisition;
Included in the minority interests; and
Included in the consolidated retained earnings.

Observe how these amounts are shown in the Statement of Retained Earnings section of the consolidated working papers on page 394.

DISPOSITION OF NET INCOME FOR 1962 — Schedule 1

Adjustment of Net Income per Books for Intercompany Profits in Inventories

	Net Income per Books	Intercompany Profits in Inventories: Beginning (Add)	Intercompany Profits in Inventories: Ending (Deduct)	Adjusted Net Income
Company *A*	$ 50,000			$50,000
Company *B*	30,000	$2,600	$3,000	29,600
Company *C*	20,000	1,800	2,800	19,000
Total	$100,000	$4,400	$5,800	$98,600
Working paper adjustment		(B)	(C)	

Apportionment of Subsidiaries' Adjusted Net Income

Apportionment of Adjusted Net Income: Of	To	Per Cents		Proof by Companies	Amounts Apportioned To: Consolidated Net Income	Minority Interests: Company *B*	Minority Interests: Company *C*
Company *A*	CNI		100.0%	$50,000	$50,000		
Company *B*	CNI		90.0%	$26,640	26,640		
	mB		10.0	2,960		$2,960	
Total Company *B*			100.0%	$29,600			
Company *C*	CNI	90% of 75%	67.5%	$12,825	12,825		
	mB	10% of 75%	7.5	1,425		1,425	
	mC		25.0	4,750			$4,750
Total Company *C*			100.0%	$19,000			
Apportionment of total				$98,600	$89,465	$4,385	$4,750

Observe how adjustments (B) and (C) for intercompany profits in inventories and the apportionment of the adjusted net income amounts are shown in the Income Statement working papers.

Schedule 2

Adjustments of, and Eliminations from, Subsidiaries' Retained Earnings, December 31, 1961, and Apportionment to Minority Interests and Consolidated Retained Earnings

			Adjustments and Eliminations			Minority Interests		
				Eliminations from				
	Company *B*	Company *C*	Adjustment Debit	*A*'s Investment in *B*	*B*'s Investment in *C*	Company *B*	Company *C*	Consolidated
Retained earnings per books—December 31, 1961:								
Company *B*:								
On December 31, 1960—date of Company *A*'s acquisition of a 90% interest in Company *B*	20,000							
Eliminate 90% against Company *A*'s investment in Company *B*				18,000 D				
Minority interest in Company *B*—10%						2,000		
Increase to Dec. 31, 1961	25,000							
Adjustment for intercompany profit			2,600 B					
Minority interest—10% of $22,400						2,240		
Consolidated—90% of $22,400								20,160
Total	45,000		2,600	18,000		4,240		20,160
Company *C*:								
On December 31, 1959—date of Company *B*'s acquisition of a 75% interest in Company *C*		12,000						
Eliminate 75% against Company *B*'s investment in Company *C*					9,000 E			
Minority interest in Company *C*—25%							3,000	
Increase to Dec. 31, 1960—date of Company *A*'s acquisition of a 90% interest in Company *B*		3,000						
Minority interest in Company *C*—25%							750	
Minority interest in Company *B*—10% of 75%						225		

Eliminate against Company *A*'s investment in Company *B*—90% of 75% of $3,000 (See note)			2,025 D				
Increase during 1961	31,000						
Adjustment for intercompany profit		1,800 B					
Minority interest in Company *C*—25% of $29,200						7,300	
Minority interest in Company *B*—10% of 75% of $29,200					2,190		
Consolidated—90% of 75% of $29,200							19,710
Total	46,000	1,800	2,025	9,000	2,415	11,050	19,710

Note to accompany Schedule 2.

The $3,000 increase in the retained earnings of Company *C* occurred between the date when Company *B* acquired its 75% interest in Company *C*, and the date when Company *A* acquired its 90% interest in Company *B*. Therefore, 75% of $3,000, or $2,250, was part of Company *B*'s retained earnings (consolidated basis) when Company *A* acquired its 90% interest in Company *B*. Consequently, 90% of $2,250, or $2,025, was retained earnings (consolidated basis) of Company *B* applicable to the stock acquired by Company *A*, and should be eliminated against that investment.

COMPANY A AND SUBSIDIARIES
Consolidated Working Papers
For the Year Ended December 31, 1962

	Statements			Adjustments and Eliminations		Minority Interests		
	Company *A*	Company *B*	Company *C*	Dr.	Cr.	Company *B*	Company *C*	Consolidated
INCOME STATEMENT:								
Sales	200,000	100,000	80,000	40,000 A				340,000
Cost of goods sold:								
Inventory—Dec. 31, 1961	45,000	28,000	22,000		4,400 B			90,600
Purchases	105,000	50,000	42,000		40,000 A			157,000
Total	150,000	78,000	64,000					247,600
Inventory—Dec. 31, 1962	40,000	23,000	19,000	5,800 C				76,200
Cost of goods sold	110,000	55,000	45,000					171,400
Gross profit on sales	90,000	45,000	35,000					168,600
Expenses	40,000	15,000	15,000					70,000
Minority interests (Schedule 1)						4,385	4,750	9,135
Net income—forward	50,000	30,000	20,000	45,800	44,400	4,385	4,750	89,465
STATEMENT OF RETAINED EARNINGS:								
Retained earnings—Dec. 31, 1961:								
Company *A*	75,000							75,000
Company *B* (Schedule 2)		45,000		2,600 B 18,000 D		4,240		20,160
Company *C* (Schedule 2)			46,000	1,800 B 2,025 D 9,000 E		2,415	11,050	19,710
Total								114,870
Net income—brought forward	50,000	30,000	20,000	45,800	44,400	4,385	4,750	89,465
Retained earnings—Dec. 31, 1962—forward	125,000	75,000	66,000	79,225	44,400	11,040	15,800	204,335

BALANCE SHEET:								
Assets:								
Cash	67,975	33,050	30,000					131,025
Accounts receivable	45,000	20,000	16,000					81,000
Inventory	40,000	23,000	19,000		5,800 C			76,200
Furniture and fixtures—less depreciation	55,000	56,450	54,000					165,450
Investment in stock of Company *B* (90%)	110,025				110,025 D			
Investment in stock of Company *C* (75%)		46,500			46,500 E			
	318,000	179,000	119,000					453,675
Liabilities and stockholders' equity:								
Accounts payable	18,000	4,000	3,000					25,000
Capital stock:								
Company *A*	175,000							175,000
Company *B*		100,000		90,000 D		10,000		
Company *C*			50,000	37,500 E			12,500	
Retained earnings—brought forward	125,000	75,000	66,000	79,225	44,400	11,040	15,800	204,335
Minority interests						21,040	28,300	49,340
	318,000	179,000	119,000	206,725	206,725			453,675

Adjustments and Eliminations

A—Intercompany sales.
B—Intercompany profits in beginning inventories.
C—Intercompany profits in ending inventories.
D—Book value, at acquisition, of Company *A*'s 90% interest in stock of Company *B*. (See Schedule 2.)
E—Book value, at acquisition, of Company *B*'s 75% interest in stock of Company *C*. (See Schedule 2.)

Manufacturing operations. The companies whose accounts are consolidated in the working papers on pages 398, 399, and 400 are engaged in manufacturing operations. Company *P* owns 90% of the stock of Company *Y* and 80% of the stock of Company *Z*. The retained earnings of the subsidiaries at the dates of acquisition are shown in the working papers. Company *Y*'s retained earnings have decreased since acquisition; Company *Z*'s retained earnings have increased. Company *P* carries its investments in the subsidiaries' stocks at cost. Statements are to be prepared for the year 1962. The working papers contain a separate column for the minority interest in each subsidiary.

Adjustments and Eliminations

A—Intercompany profits in December 31, 1961 inventories:

	On Sales Made By		
	Company *Y*	Company *Z*	Total
Profits in inventories of:			
Materials	$1,900	$1,800	$3,700
Goods in process	600	1,200	1,800
Finished goods	1,200	2,800	4,000
Totals	$3,700	$5,800	$9,500

The adjustment entries credit the inventories with the amounts shown in the Total column, and debit the subsidiaries' December 31, 1961 retained earnings with the totals of the Company *Y* and Company *Z* columns.

B—Intercompany sales.

C—Cash discounts on intercompany purchases and sales.

D—Intercompany profits in December 31, 1962 inventories:

	On Sales Made By		
	Company *Y*	Company *Z*	Total
Profits in inventories of:			
Materials	$2,000	$1,500	$3,500
Goods in process	1,500	1,800	3,300
Finished goods	1,300		1,300
Totals	$4,800	$3,300	$8,100

The adjusting entries debit the inventories in the Cost of Goods Manufactured and Income Statement sections, and credit the inventories in the Balance Sheet section.

E—Management service income and expense.

F—Interest on Company *Z* bonds owned by Company *P*.

G—Dividend received by Company *P* on Company *Y* stock.

H—Dividend received by Company *P* on Company *Z* stock.

I—90% of Company *Y*'s retained earnings at date of acquisition.

J—80% of Company *Z*'s retained earnings at date of acquisition.

K—Intercompany accounts receivable and payable.
L—Company *Z* bonds owned by Company *P*.

Observe the computation of the minority interests in the net income of the subsidiaries:

Company *Y*—10% of [$27,710 (net income per books) plus $3,700 (intercompany profit in opening inventory on sales by Company *Y*—see tabulation under Adjustment A) minus $4,800 (intercompany profit in ending inventory on sales by Company *Y*—see tabulation under Adjustment D)] = $2,661.
Company *Z*—20% of [$37,675 plus $5,800 (Adjustment A) minus $3,300 (Adjustment D)] = $8,035.

COMPANY P AND SUBSIDIARIES
Consolidated Working Papers
For the Year Ended December 31, 1962

	Statements			Adjustments and Eliminations		Minority Interests		
	Company *P*	Company *Y*	Company *Z*			Company *Y*	Company *Z*	Consolidated
Statement of Cost of Goods Manufactured:								
Materials:								
Inventory—Dec. 31, 1961	25,000	15,000	10,000		3,700 A			46,300
Purchases	145,000	95,000	76,000		170,000 B			146,000
Purchase discounts	1,750*	1,120*	800*	1,700 C				1,970*
Total	168,250	108,880	85,200					190,330
Deduct inventory—Dec. 31, 1962	27,000	16,000	11,000	3,500 D				50,500
Cost of materials used	141,250	92,880	74,200					139,830
Direct labor	85,000	65,000	60,000					210,000
Manufacturing expense	70,000	40,000	38,000					148,000
Total manufacturing cost	296,250	197,880	172,200					497,830
Add goods in process—Dec. 31, 1961	15,000	30,000	5,000		1,800 A			48,200
Total	311,250	227,880	177,200					546,030
Deduct goods in process—Dec. 31, 1962	14,000	29,000	6,000	3,300 D				45,700
Cost of goods manufactured—forward	297,250	198,880	171,200	8,500	175,500			500,330
Income Statement:								
Sales	358,000	262,540	234,850	170,000 B				685,390
Sales returns and allowances	3,000*	2,000*	1,000*					6,000*
Sales discounts	2,800*	1,950*	975*		1,700 C			4,025*
Net sales	352,200	258,590	232,875					675,365
Deduct cost of goods sold:								
Finished goods inventory—Dec. 31, 1961	20,000	30,000	15,000		4,000 A			61,000
Cost of goods manufactured—brought forward	297,250	198,880	171,200	8,500	175,500			500,330
Total	317,250	228,880	186,200					561,330
Deduct finished goods inventory—Dec. 31, 1962	25,000	32,000	14,000	1,300 D				69,700
Cost of goods sold	292,250	196,880	172,200					491,630
Gross profit on sales	59,950	61,710	60,675					183,735

Deduct:								
Selling expenses	23,000	22,000	15,000					60,000
General expenses	24,000	9,000	3,000					36,000
Management service expense		3,000	2,000		5,000 E			
Total	47,000	34,000	20,000					96,000
Net income from operations	12,950	27,710	40,675					87,735
Other income and expense*:								
Management service income	5,000			5,000 E				
Bond interest from Company *Z*	1,200			1,200 F				
Dividend income from Company *Y*	5,400			5,400 G				
Dividend income from Company *Z*	2,400			2,400 H				
Bond interest expense	5,000*		3,000*		1,200 F			6,800*
Minority interest in Company *Y*—10% of (27,710 + 3,700 − 4,800)						2,661		2,661*
Minority interest in Company *Z*—20% of (37,675 + 5,800 − 3,300)							8,035	8,035*
Net income—forward	21,950	27,710	37,675	193,800	187,400	2,661	8,035	70,239
Statement of Retained Earnings:								
Retained earnings—Dec. 31, 1961:								
Company *P*	35,000							35,000
Company *Y*:								
At acquisition		30,000		27,000 I		3,000		
Decrease since		5,000*		3,700 A		870*		7,830*
Company *Z*:								
At acquisition			10,000	8,000 J			2,000	
Increase since			16,000	5,800 A			2,040	8,160
Total	35,000	25,000	26,000			2,130	4,040	35,330
Net income—brought forward	21,950	27,710	37,675	193,800	187,400	2,661	8,035	70,239
Total	56,950	52,710	63,675			4,791	12,075	105,569
Dividends:								
Company *P*	30,000							30,000
Company *Y*		6,000			5,400 G	600		
Company *Z*			3,000		2,400 H		600	
Retained earnings—Dec. 31, 1962—forward	26,950	46,710	60,675	238,300	195,200	4,191	11,475	75,569

* Deduction.

COMPANY P AND SUBSIDIARIES
Consolidated Working Papers (Concluded)
For the Year Ended December 31, 1962

	Statements			Adjustments and Eliminations		Minority Interests		
	Company *P*	Company *Y*	Company *Z*			Company *Y*	Company *Z*	Consolidated
Balance Sheet:								
Assets:								
Cash	80,410	3,995	12,300					96,705
Accounts receivable	53,700	17,000	25,000		11,500 K			84,200
Allowance for doubtful accounts	960*	630*	725*					2,315*
Inventories:								
Finished goods	25,000	32,000	14,000		1,300 D			69,700
Goods in process	14,000	29,000	6,000		3,300 D			45,700
Materials	27,000	16,000	11,000		3,500 D			50,500
Land	70,000	40,000	25,000					135,000
Buildings	205,000	65,845	80,000					350,845
Accumulated depreciation—Buildings	43,000*	9,500*	15,000*					67,500*
Equipment	125,000	55,000	22,000					202,000
Accumulated depreciation—Equipment	36,000*	16,000*	4,900*					56,900*
Investment in stock of Company *Y* (90%)	117,000				117,000 I			
Investment in stock of Company *Z* (80%)	48,000				48,000 J			
Investment in bonds of Company *Z*—at par	20,000				20,000 L			
	705,150	232,710	174,675					907,935
Liabilities and stockholders' equity:								
Accounts payable	78,200	86,000	14,000	11,500 K				166,700
Bonds payable:								
Company *P*—5%	100,000							100,000
Company *Z*—6%			50,000	20,000 L				30,000
Capital stock:								
Company *P*	500,000							500,000
Company *Y*		100,000		90,000 I		10,000		
Company *Z*			50,000	40,000 J			10,000	
Retained earnings—brought forward	26,950	46,710	60,675	238,300	195,200	4,191	11,475	75,569
Total minority interest						14,191	21,475	35,666
	705,150	232,710	174,675	399,800	399,800			907,935

* Deduction.

CHAPTER TWENTY-TWO

Parent and Subsidiary Accounting (Continued)

Intercompany Profits in Fixed Asset Transactions

Adjustments for intercompany profits in fixed assets. Intercompany profit adjustments are required if one affiliated company makes a profit on a fixed asset sale to, or a construction contract with, another company in the consolidated group. As in the case of intercompany profits in inventories, the entire profit should be eliminated from the gross asset valuation.

Intercompany profits in assets not subject to depreciation or amortization. To begin simply, we shall deal first with profits made on transactions involving fixed assets not subject to depreciation or amortization. As in the case of intercompany profits in inventories, three conditions may exist:

Sale by parent to subsidiary (wholly or partially owned):
- Eliminations are made as follows:
  - Year of sale:
    - From the parent's profit account, in the Income Statement section;
    - From the purchasing subsidiary's asset account, in the Balance Sheet section.
  - Subsequent years—As long as the asset is held:
    - From the parent's retained earnings at the beginning of the year, in the Statement of Retained Earnings section;
    - From the subsidiary's asset account, in the Balance Sheet section.

Sale by a 100%-owned subsidiary—to parent or another subsidiary (wholly or partially owned):

Eliminations are made as indicated above, except that eliminations made from the parent's accounts are now made from the selling subsidiary's accounts.

Sale by a 90%-owned subsidiary—to parent or another subsidiary (wholly or partially owned):

Eliminations would be made as in the case of a wholly-owned subsidiary.

Other working paper matters:

In year of sale:

The minority interest in the subsidiary's net income would be 10% of (the subsidiary's net income per books minus the intercompany profit).

In subsequent years:

In the Statement of Retained Earnings section of the working papers, the line for the increase in the subsidiary's retained earnings since acquisition should show:

In the subsidiary's Trial Balance credit column—the increase in the subsidiary's retained earnings, per books, from the date of acquisition to the beginning of the current year;

In the Adjustments and Eliminations debit column—the amount of the intercompany profit;

In the Minority Interest column—10% of (the increase in the subsidiary's retained earnings per books minus the intercompany profit).

Intercompany profits in assets subject to depreciation or amortization. We shall now consider cases in which it is assumed that, on December 31, 1961, an intercompany sale of machinery was made at a price of $10,000, which included a profit of $2,000; the machinery had an estimated life of four years after the date of sale.

Regardless of the parent's percentage interest in any subsidiary that was a party to the sale, the intercompany elimination in the year of sale would be:

Profit on sale of machinery (selling company's account)	2,000	
Machinery (purchasing company's account)		2,000

Sale by parent. As an aid to an understanding of adjustments and eliminations to be made in subsequent years, let us assume that the parent made the $2,000 profit by a sale of *merchandise* to a subsidiary, and that the subsidiary disposed of one-fourth of the merchandise during each of the four subsequent years; each year,

one-fourth of the intercompany profit would become realized.

This inventory illustration is analogous to the fixed asset illustration of a sale, at a $2,000 profit, of machinery with a four-year life subsequent to the sale; assuming that the straight-line depreciation method is used, the machinery is "disposed of" in equal annual amounts over its four-year life. Consequently, one-fourth, or $500, of the intercompany profit may be regarded as realized each year, and properly included in consolidated net income. Note, in the schedule of working paper adjustments and eliminations on pages 404 and 405, how the parent's retained earnings at the beginning of each year (beginning with 1963) are credited with the cumulative profit realizations of prior years.

Sale by 100%-owned subsidiary. If the sale had been made by a 100%-owned subsidiary to the parent, the adjustments and eliminations would be the same as those in the schedule on pages 404 and 405. The columns headed "Parent's Accounts" would be headed "Subsidiary's Accounts," and vice versa. Adjustments and eliminations would be the same if the sale had been made to another subsidiary.

Sale by 90%-owned subsidiary. If the sale had been made by a 90%-owned subsidiary, the adjustments and eliminations would not be affected. The only new feature would be the determination of amounts applicable to the minority interest.

The minority interest in the subsidiary's net income would be:

Year of sale:
- 10% of (the subsidiary's net income per books minus the intercompany profit).

Subsequent years during the life of the asset:
- 10% of (the subsidiary's net income per books plus the depreciation adjustment for the current year).

The amount to be shown in the Statement of Retained Earnings section of the working papers as the minority interest in the increase in the subsidiary's retained earnings from the date of acquisition to the beginning of the year would be:

Year of sale:
- 10% of the increase per books.

First year after year of sale:
- 10% of (increase per books minus intercompany profit on sale).

Subsequent years during the life of the asset:
- 10% of (increase per books minus the intercompany profit on the sale and plus the cumulative profit realizations of prior years).

Schedule of Working Paper Adjustments and Eliminations

(Starred Items are Credits)

(The amounts shown in the several columns are only those related to the intercompany sale)

	Parent's Accounts		Subsidiary's Accounts		
	Income Statement Papers	Retained Earnings Papers	Income Statement Papers	Balance Sheet Papers	
	Profit on Sale	Retained Earnings Beginning of Year	Depreciation of Machinery	Machinery	Accumulated Depreciation —Machinery
1961					
Balances per books	2,000*			10,000	
Elimination of profit on sale	2,000			2,000*	
Balances per consolidated statements	—			8,000	
1962					
Balances per books		2,000*	2,500	10,000	2,500*
Elimination of profit on sale		2,000		2,000*	
Depreciation adjustment			500*		500
Balances per consolidated statements		—	2,000	8,000	2,000*
1963					
Balances per books		2,000*	2,500	10,000	5,000*
Elimination of profit on sale		2,000		2,000*	
Depreciation adjustments:					
1962		500*			500
1963			500*		500
Balances per consolidated statements		500*	2,000	8,000	4,000*

1964				
Balances per books	2,000*	2,500	10,000	7,500*
Elimination of profit on sale	2,000		2,000*	
Depreciation adjustments:				
1962–63	1,000*			1,000
1964		500*		500
Balances per consolidated statements	1,000*	2,000	8,000	6,000*
1965				
Balances per books	2,000*	2,500	10,000	10,000*
Elimination of profit on sale	2,000		2,000*	
Depreciation adjustment (illustrating how adjustments for prior and current years can be combined)	1,500*	500*		2,000
Balances per consolidated statements (except that fully depreciated machinery probably would not be included in the consolidated balance sheet)	1,500*	2,000	8,000	8,000*
1966				
Balance per books	2,000*			

Inventory adjustments related to profits in fixed assets. If goods are manufactured with the use of depreciating fixed assets acquired in a transaction involving an intercompany profit, the inventories at the end of the period may be overstated from a consolidated standpoint, because manufacturing costs per books include a charge for depreciation of the portion of the asset cost represented by intercompany profit. Or, stated in another way, intercompany profits in fixed assets have been transferred, by the depreciation entries, into intercompany profits in the finished goods and goods in process inventories.

It is theoretically proper to make a working paper adjustment for such intercompany profits transferred through manufacturing costs into inventories, but it often is impracticable to do so because of the difficulty of determining the amounts. When the amounts of such intercompany profits can be determined, they are eliminated in the manner previously described for the elimination of intercompany profits in inventories.

Book Value at Acquisition

Stock acquired from the subsidiary. In the illustrations heretofore presented, it usually has been assumed that the parent company acquired the subsidiary stock by purchase from stockholders of the subsidiary. Sometimes the stock is acquired directly from the subsidiary. In such cases it must be remembered that the book value of the subsidiary stock includes any premium paid by the parent company in the acquisition. To illustrate, assume that Company *S* had $50,000 of outstanding stock, and retained earnings of $12,000. An additional issue of $70,000 was authorized and sold for $103,000 to Company *P*, which thus became Company *S*'s parent. The excess of cost over book value at acquisition was $6,750, computed as follows:

Cost of stock to parent		$103,000
Book value of stock acquired:		
Stockholders' equity before issuance of additional stock:		
Capital stock	$ 50,000	
Retained earnings	12,000	
Additional capital paid in by parent:		
Capital stock	70,000	
Paid-in surplus	33,000	
Total	$165,000	
7/12 thereof		96,250
Excess of cost over book value		$ 6,750

The elimination entry in the consolidated working papers is:

Capital stock—Company *S* (7⁄12 of $120,000)	70,000	
Retained earnings—Company *S* (7⁄12 of $12,000)	7,000	
Paid-in surplus—Company *S* (7⁄12 of $33,000)	19,250	
Investment in stock of Company *S*		96,250

Several stock acquisitions—Control obtained by first purchase. Assume that Company *P* made the following purchases of stock of Company *S*:

Date	Per Cent	Cost
January 1, 1958	60%	$ 90,000
January 1, 1959	10	15,400
January 1, 1960	20	31,600
Total	90%	$137,000

Assume that the parent company uses the cost basis of accounting for its investment in the subsidiary; that consolidated statements are to be prepared for the year ending December 31, 1962; and that, during each of the years 1958 to 1961 inclusive, the subsidiary's net income was $10,000 and its dividends were $6,000. Therefore, the subsidiary's retained earnings increased $4,000 each year.

Since there were three purchase dates and the subsidiary's retained earnings differed at the various dates, it is impracticable to divide the subsidiary's retained earnings at the beginning of the year (in the Statement of Retained Earnings section of the working papers) into the two elements shown in preceding working papers: retained earnings at acquisition, and increase in retained earnings since acquisition. Instead, the portion of the subsidiary's retained earnings to be eliminated (as applicable to the several dates of acquisition) may be computed as follows:

Computation of Subsidiary Retained Earnings Applicable to Stock Purchases

	Purchases—January 1,			
	1958	1959	1960	Total
Retained earnings at date of acquisition	$50,000	$54,000	$58,000	
Per cent of stock acquired	60%	10%	20%	
Retained earnings applicable to stock purchased:				
1958	$30,000			$30,000
1959		$ 5,400		5,400
1960			$11,600	11,600
Total				$47,000

The working paper procedure is shown on the following page.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962

	Statements		Adjustments and Eliminations		Minority Interest	Consolidated
	Company *P*	Company *S*				
STATEMENT OF RETAINED EARNINGS:						
Retained earnings—Dec. 31, 1961:						
Company *P*						
Company *S*		66,000	47,000 A		6,600	12,400
BALANCE SHEET:						
Assets:						
Investment in stock of Company *S* (90%)	137,000			137,000 A		
Liabilities and stockholders' equity:						
Capital stock—Company *S*		100,000	90,000 A		10,000	

The $47,000 elimination from Company *S*'s retained earnings is the amount determined by the preliminary computation.

The minority interest is 10% of the $66,000 balance in the subsidiary's Retained Earnings account.

The $12,400 in the Consolidated column is the balance in the account minus the elimination and the minority interest.

The amount of the subsidiary company's contribution to consolidated retained earnings is shown by the following computation:

Percentages of subsidiary's dividends taken into parent's income:	
1958—60% of $6,000	$ 3,600
1959—70% of $6,000	4,200
1960—90% of $6,000	5,400
1961—90% of $6,000	5,400
Total	$18,600
Parent's share of subsidiary's retained earnings (per working papers)	12,400
Total	$31,000

If the parent company uses the equity method of accounting for its investment in the subsidiary, no special problem is raised by the fact that the subsidiary stock was acquired in three parcels at different dates. By the equity-method procedure of debiting its investment account and crediting income with its increasing percentages of the net income of Company *S*, the parent will have taken into its own retained earnings by December 31, 1961 (the end of the period preceding the statement year) its shares of the subsidiary's net earnings, as follows:

1958—60% of $10,000	$ 6,000
1959—70% of $10,000	7,000
1960—90% of $10,000	9,000
1961—90% of $10,000	9,000
Total	$31,000

Working paper eliminations and the computation of the consolidated net income for the year can be made by the procedures explained in the discussion of the equity method presented in Chapter 19.

Several purchases—Control not originally obtained. Assume that a company makes more than one purchase of the stock of a company before control is obtained, as in the following illustration:

January 1, 1959—Company *P* purchases 20% of the stock of Company *S*;
January 1, 1960—Company *P* purchases 10% of the stock of Company *S*;
January 1, 1962—Company *P* purchases 60% of the stock of Company *S*.

Accounting Research Bulletin No. 51 has the following to say with respect to such a situation:

"When one company purchases two or more blocks of stock of another company at various dates and eventually obtains control of the other company, the date of acquisition (for the purpose of preparing consolidated statements) depends on the circumstances. If two or more purchases are made over a period of time, the earned surplus of the subsidiary at acquisition should generally be determined on a step-by-step basis;"

In other words, the working paper treatment would be the same as that described in the preceding section under the caption "Several stock acquisitions—Control obtained by first purchase."

But the bulletin goes on to say:

"however, if small purchases are made over a period of time and then a purchase is made which results in control, the date of the latest purchase, as a matter of convenience, may be considered as the date of acquisition."

The procedure advocated is probably acceptable, but only "as a matter of convenience," because it may be contended that the procedure may produce results that are not strictly correct theoretically.

In the first place, it is questionable whether the convenient procedure results in a correct computation of the difference between cost and book value of the stock acquired, as shown below:

Computations of Excess of Cost Over Book Value at Acquisition

Date of Acquisition	Subsidiary's Stockholders' Equity: Capital Stock	Retained Earnings	Total	Per Cent Acquired	Book Value of Stock Acquired	Cost	Excess of Cost Over Book Value
Step-by-step computation:							
Jan. 1, 1959	$100,000	$25,000	$125,000	20%	$ 25,000	$ 30,000	$ 5,000
Jan. 1, 1960	100,000	40,000	140,000	10%	14,000	17,000	3,000
Jan. 1, 1962	100,000	75,000	175,000	60%	105,000	120,000	15,000
Total excesses of cost over book value							$23,000
Date control obtained taken as date of all acquisitions:							
Jan. 1, 1962	$100,000	$75,000	$175,000	90%	$157,500	$167,000	9,500
Difference							$13,500

In the second place, it is questionable whether the suggested procedure results in a correct figure for consolidated retained earnings. The suggested procedure would deprive consolidated retained earnings of any portion of the increases in the subsidiary's retained earnings between the actual dates of acquisition and the assumed date, as shown on page 411.

First purchase:		
Retained earnings:		
January 1, 1962—assumed date of acquisition	$75,000	
January 1, 1959—actual date of acquisition	25,000	
Increase	$50,000	
Per cent of stock acquired	20%	
Increase applicable to stock acquired		$10,000
Second purchase:		
Subsidiary's retained earnings:		
January 1, 1962—assumed date of acquisition	$75,000	
January 1, 1960—actual date of acquisition	40,000	
Increase	$35,000	
Per cent of stock acquired	10%	
Increase applicable to stock acquired		3,500
Total		$13,500

The $13,500 excluded from consolidated retained earnings is the same as the understatement of the excess of acquisition costs over book values at the respective dates of acquisition.

Although consolidated statements would not be permissible before control was obtained, the exclusion of the $13,500 from retained earnings would seem to be justified only on the assumption that the parent received no earnings benefit in 1959, 1960, and 1961 from its noncontrolling investments. And the $13,500 deduction from the excess of cost over book value would seem to be justified only on the theory that the $13,500 was a return of a part of the cost of the investments.

It is generally recognized that theoretical objections to a procedure may be ignored if the consequences are immaterial. Presumably it was for this reason that the words "may be" were used in the second part of the above quotation, although the words "should generally be" were used in the first part of the quotation.

Interim acquisition of a controlling interest. A controlling interest in the stock of a subsidiary may be acquired at a date other than one for which the subsidiary customarily prepares statements.

In the unusual case, the transfer of the subsidiary stock may be made on one date but as of a preceding date. Which date should be used in the computation of the book value at acquisition? Assume that negotiations are started in May for the acquisition of a company's stock as of the end of the preceding December. If there is a presumption that the purchase price includes an allowance for the earnings during the intervening period, and in the absence of a specific contract to the contrary, the book value at acquisition should include the subsidiary's earnings to the date of the transfer of the stock. However, if the price is based on conditions existing on the preceding December 31, and the transfer is

postponed because of the time required for audits or other verifications of the stated conditions, the retained earnings at acquisition should be based on an assumption of constructive acquisition as of December 31.

In the customary case, control is regarded as obtained at the date of the transfer of the stock. If this date is an interim one during the year, there are two alternative methods for the preparation of a consolidated income statement for the year of acquisition:

(1) The parent's income statement for the year may be consolidated with the subsidiary's income statement for the portion of the year subsequent to acquisition. From the combined net income thus determined, the following deduction should be made:

An amount computed by multiplying the subsidiary's net income for the portion of the year subsequent to acquisition by the minority's stock interest per cent at the end of the year.

(2) The parent's and the subsidiary's income statements for the full year may be consolidated. From the combined net income thus determined, the following deductions should be made:

An amount computed by multiplying the subsidiary's net income for the year by the minority's stock interest per cent at the end of the year.

An amount computed by multiplying the subsidiary's net income for the pre-acquisition portion of the year by the parent's stock interest per cent at the end of the year. One method for estimating the pre-acquisition net income would be to multiply the subsidiary's net income for the year by a fraction representing the pre-acquisition portion of the year. Other methods might give recognition to variations in seasonal business.

The second procedure is the one usually adopted. It has three advantages: first, it avoids the necessity of preparing a subsidiary income statement for the fractional period subsequent to acquisition; second, such a statement gives a better picture of the earning power of the group than would be presented by a statement consolidating the operations of the parent company for the full year and those of the subsidiary for a portion thereof; and third, it facilitates a comparison of the results of operations during the year of acquisition and subsequent years.

To illustrate the mechanics of the preparation of such a statement, assume that Company *S* had a capital stock of $100,000 and retained earnings of $50,000 on January 1, 1962; that Company *P* purchased 90% of the stock on April 1, 1962 for $139,500; and that

Company *S* earned a net income of $20,000 during 1962, in equal quarterly amounts of $5,000. The working papers are on pages 414 and 415.

Following is the consolidated income statement prepared from the working papers.

COMPANY P AND SUBSIDIARY
Consolidated Income Statement
For the Year Ended December 31, 1962

Sales		$800,000
Deduct cost of goods sold		600,000
Gross profit on sales		$200,000
Deduct expenses		155,000
Net income		$ 45,000
Deduct:		
Subsidiary income applicable to minority	$2,000	
Subsidiary income applicable to parent company's holdings, but earned prior to acquisition	4,500	6,500
Consolidated net income		$ 38,500

Interim purchases—Control not originally obtained. Assume that Company *P* purchased a 45% interest in the stock of Company *S* on October 1, 1959, and a further 30% interest on April 1, 1960. Consolidated statements for 1959 would not be prepared. In the 1960 consolidated statements, what recognition should be given to Company *P*'s 45% interest in the net income of Company *S* between October 1, 1959 and April 1, 1960?

On the step-by-step basis stated in the quotation on page 410 from the *Accounting Research Bulletin*, it would be appropriate, in the 1960 statements, to include, in the consolidated retained earnings on December 31, 1959, 45% of the subsidiary's net income for the last three months of 1959; it would also be appropriate to include, in the consolidated income statement, 45% of the subsidiary's net income for the three months ended March 31, 1960 and 75% of the subsidiary's net income for the nine months ended December 31, 1960.

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1962

	Statements		Adjustments and Eliminations	Minority Interest	Consolidated
	Company *P*	Company *S*			
INCOME STATEMENT:					
Sales	500,000	300,000			800,000
Deduct cost of goods sold	395,000	205,000			600,000
Gross profit on sales	105,000	95,000			200,000
Expenses	80,000	75,000			155,000
Net income	25,000	20,000			45,000
Minority interest—10% of $20,000				2,000	2,000
Net income applicable to parent's stock interest					43,000
Portion earned prior to acquisition—90% of ¼ of $20,000			4,500 A		4,500
Consolidated net income			4,500	2,000	38,500
STATEMENT OF RETAINED EARNINGS:					
Retained earnings—Dec. 31, 1961:					
Company *P*	100,000				100,000
Company *S*		50,000	45,000 B	5,000	
Net income—brought forward	25,000	20,000	4,500	2,000	38,500
Retained earnings—Dec. 31, 1962—forward	125,000	70,000	49,500	7,000	138,500

Balance Sheet:						
Assets:						
Cash	40,500	35,000				75,500
Accounts receivable	200,000	130,000				330,000
Inventory	55,000	45,000				100,000
Investment in stock of Company *S* (90%)—at cost	139,500			{ 4,500 A 135,000 B		
	435,000	210,000				505,500
Liabilities and stockholders' equity:						
Accounts payable	60,000	40,000				100,000
Capital stock:						
Company *P*	250,000					250,000
Company *S*		100,000	90,000 B		10,000	
Retained earnings—brought forward	125,000	70,000	49,500		7,000	138,500
Minority interest					17,000	17,000
	435,000	210,000	139,500	139,500		505,500

Adjustments and Eliminations

A—Since the subsidiary's income statement for the entire year 1962 is consolidated with that of the parent company, 90% of the subsidiary's net income for the pre-acquisition period in 1962 is eliminated in the Income Statement section of the working papers to determine the consolidated net income. And since the pre-acquisition earnings of the subsidiary in 1962 are part of the book value at acquisition, the $4,500 is eliminated from the investment account in the Balance Sheet section of the working papers.

B—Elimination of 90% of the subsidiary's retained earnings at the beginning of 1962.

CHAPTER TWENTY-THREE

Parent and Subsidiary Accounting (Continued)

Changes in Parent's Equity

Purchases and sales of subsidiary stock. Assume that the parent company made several purchases of subsidiary stock and also made two sales. When a parent company acquires subsidiary stock at different times and at different prices, it is necessary to adopt a basis for the allocation of carrying values to the shares sold. In this illustration, the first-in, first-out basis* is used; we shall first show how the valuations assigned to the sold shares, and the consequent gain or loss, are determined if the accounts are kept on the equity basis, and shall then show the procedure if the accounts are kept on the cost basis.

Equity basis. All facts relative to purchases and sales of subsidiary shares, and the net income and dividends of the subsidiary, are shown in the tabulation on page 417. The tabulation also shows how the parent's investment and Retained Earnings accounts would be affected on the equity basis of accounting. It is assumed that the parent has no retained earnings from its own

* The first-in, first-out basis is not the only one which could be used; other possible bases are last-in, first-out, average cost, and specific identification of stock certificates. Only the first-in, first-out and specific identification bases are recognized for tax purposes, and gains and losses are computed on the cost basis. However, we are not here considering tax matters; we are considering accounting procedures from the standpoint of consolidated statements.

operations. On page 418 are the computations of the valuations assigned to the sold shares, and the gains on the sales.

COMPANY P AND SUBSIDIARY
Statement of Subsidiary Stockholders' Equity, and of Parent's Investment and Retained Earnings Accounts
Equity Basis of Accounting
(Starred Items are Credits)

	Subsidiary's Stockholders' Equity	Parent's Accounts: Investment Per Cent	Parent's Accounts: Investment Amount	Parent's Accounts: Retained Earnings
1959:				
Balances, January 1:				
Capital stock	$100,000*			
Retained earnings	50,000*			
Total	$150,000*			
Stock purchase, January 1—600 shares		60%	$ 99,000	
Subsidiary net income	10,000*		6,000	$ 6,000*
Subsidiary dividend	6,000		3,600*	
1960:				
Purchase, January 1, 1960—100 shares		10	16,000	
Balances	$154,000*	70%	$117,400	$ 6,000*
Subsidiary net income	10,000*		7,000	7,000*
Subsidiary dividend	6,000		4,200*	
1961:				
Purchase, January 1, 1961—200 shares		20	33,000	
Balances	$158,000*	90%	$153,200	$13,000*
Sale, January 1—50 shares (see computation below)		5*	8,650*	1,350*
Balances		85%	$144,550	$14,350*
Subsidiary net income	10,000*		8,500	8,500*
Subsidiary dividend	6,000		5,100*	
Balances	$162,000*	85%	$147,950	$22,850*
1962:				
Sale, June 30—50 shares (see computation below)		5*	8,850*	1,150*
Purchase, September 30—100 shares		10	19,000	
Subsidiary net income	10,000*			
80% for year			8,000	8,000*
10% for ¼ year			250	250*
Subsidiary dividend	6,000		5,400*	
Balances	$166,000*	90%	$160,950	$32,250*

Computation of valuation assigned to sold shares, and gains on sales. The first purchase consisted of 600 shares, and the two sales were of 50 shares each; since the first shares purchased were more than the shares sold, the sales are assumed to appertain wholly to the first purchase. The shares first purchased cost $99,000 ÷ 600, or $165 per share. The increases in book value per share during the years prior to the sale are shown on the following page.

	1959	1960	1961
Shares owned	600	700	850
Subsidiary income:			
Total	$6,000	$7,000	$8,500
Per share	10	10	10
Dividends from subsidiary:			
Total	3,600	4,200	5,100
Per share	6	6	6
Increase in book value per share	4	4	4

The carrying values per share and the gains on the two sales are computed below.

	Sales	
	First (Jan. 1, 1961)	Second (June 30, 1962)
Carrying value per share at date of sale:		
Cost	$ 165	$ 165
Net increase in carrying value per share prior to sale:		
1959	4	4
1960	4	4
1961		4
Total	$ 173	$ 177
Shares sold	50	50
Carrying value of 50 shares sold	$ 8,650	$ 8,850
Selling price	10,000	10,000
Gain	$ 1,350	$ 1,150

Alternative treatment of mid-period sales. In connection with the sale on June 30, 1962, it will be noted that the parent made no entry for its share of the subsidiary net income, applicable to the sold shares, for the half-year to the date of sale. If it was known on June 30, 1962 that the subsidiary's net income for the first six months of 1962 was (for example) $5,000, the following entries might have been made:

Investment in stock of Company *S*	250	
Subsidiary income		250
To take up income for the first six months of 1962 on shares sold ($5 per share × 50).		
Cash	10,000	
Investment in stock of Company *S*		9,100
Gain on sale of stock of Company *S*		900
Sale of 50 shares.		

By the first method, the gain on the sale is shown as $1,150. By the second method, $1,150 will find its way into the parent's retained earnings, but it will consist of two amounts: $250 income for the first six months of 1962 and $900 gain on the sale.

Consolidated working papers. Partial consolidated working papers for 1962 prepared from equity-basis accounts are presented on the opposite page.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962
(Equity Method)

	Statements				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
INCOME STATEMENT:									
Net income from operations				10,000					10,000
Gain from sale of stock		1,150							1,150
Subsidiary income		8,250			8,250 A				
Net income—forward	9,400		10,000						
	9,400	9,400	10,000	10,000					
Minority interest—10% of $10,000							1,000	1,000	
Net income applicable to parent's 10% stock interest for portion of year prior to acquisition—10% of ¾ of $10,000					750 A			750	
Consolidated net income—forward					9,000		1,000	9,400	
								11,150	11,150
STATEMENT OF RETAINED EARNINGS:									
Retained earnings—December 31, 1961:									
Company *P*		22,850							22,850
Company *S*				62,000	55,800 A		6,200		
Net income—brought forward		9,400		10,000	9,000		1,000		9,400
Dividends			6,000			5,400 A	600*		
Retained earnings—December 31, 1962—forward	32,250		66,000		64,800	5,400	6,600	32,250	
	32,250	32,250	72,000	72,000				32,250	32,250
BALANCE SHEET:									
Assets:									
Investment in stock of Company *S* (90%)	160,950								
Eliminate book value						149,400 A			
Excess								11,550	
Liabilities and stockholders' equity:									
Capital stock—Company *S*				100,000	90,000 A		10,000		
Retained earnings—brought forward		32,250		66,000	64,800	5,400	6,600		32,250

* Deduction.

Adjustments and Eliminations

A—Eliminate $750 pre-acquisition earnings applicable to 10% stock interest acquired during the year, and end-of-year book value of stock owned.

The $149,400 elimination from the parent's $160,950 investment account is the amount required to balance the (A) adjustments. It can be proved by the following computation of the $11,550 excess.

The $11,550 excess should equal the excess payments made in connection with the various stock purchases, minus the portions of such excess payments applicable to the stock sold. By the first-in, first-out procedure, the stock sold is taken from the first stock purchased; the excess payment on the first purchase was $15 per share, as shown below; therefore, the excess applicable to the stock sold is regarded as $15 per share.

Computation of Excess in December 31, 1962 Consolidated Working Papers

		Subsidiary's Stock and Retained Earnings at Acquisition			Excess	
		Total	Applicable to Stock Acquired	Cost of Stock	Total	Per Share
Jan. 1, 1959, Purchase—600 shares or 60%		$150,000	$90,000	$99,000	$ 9,000	$15
Jan. 1, 1960, Purchase—100 shares or 10%		154,000	15,400	16,000	600	
Jan. 1, 1961, Purchase—200 shares or 20%		158,000	31,600	33,000	1,400	
Jan. 1, 1961, Sale—50 shares:						
Applicable excess: $15 × 50					750*	
June 30, 1962, Sale—50 shares:						
Applicable excess: $15 × 50					750*	
Sept. 30, 1962, Purchase—100 shares or 10%:						
Subsidiary stock and retained earnings, Jan. 1, 1962	$162,000					
Add subsidiary net income to Sept. 30, 1962—¾ of $10,000	7,500					
Total		169,500	16,950	19,000	2,050	
Excess in consolidated balance sheet on December 31, 1962					$11,550	

* Deduction.

Proof of $149,400 Elimination

Balance of investment account	$160,950
Portion representing payments in excess of book value	11,550
Book value eliminated	$149,400

Cost basis of accounting. The following tabulation shows entries which would be made in the subsidiary's Retained Earnings account, and the related effects on the parent's accounts, if the parent's books were kept by the cost method.

COMPANY P AND SUBSIDIARY
Statement of Retained Earnings and Investment Accounts
Cost Basis of Accounting
(Starred Items are Credits)

	Subsidiary's Retained Earnings	Parent's Accounts: Investment Per Cent	Parent's Accounts: Investment Amount	Parent's Accounts: Retained Earnings
1959:				
Balances, Jan. 1, before stock purchase	$50,000*			
Stock purchase, Jan. 1—600 shares		60%	$ 99,000	
Subsidiary net income	10,000*			
Subsidiary dividend	6,000			$ 3,600*
1960:				
Purchase, Jan. 1—100 shares		10	16,000	
Balances	$54,000*	70%	$115,000	$ 3,600*
Subsidiary net income	10,000*			
Subsidiary dividend	6,000			4,200*
1961:				
Purchase, Jan. 1—200 shares		20	33,000	
Balances	$58,000*	90%	$148,000	$ 7,800*
Sale, Jan. 1—50 shares:				
Assigned cost on first-in, first-out basis		5*	8,250*	1,750*
Balances		85%	$139,750	$ 9,550*
Subsidiary net income	10,000*			
Subsidiary dividend	6,000			5,100*
Balances	$62,000*	85%	$139,750	$14,650*
1962:				
Sale, June 30—50 shares:				
Assigned cost		5*	8,250*	1,750*
Purchase, Sept. 30—100 shares		10	19,000	
Subsidiary net income	10,000*			
Subsidiary dividend	6,000			5,400*
Balances	$66,000*	90%	$150,500	$21,800*

The $8,250 cost of each of the 50-share lots sold is computed as follows:

First purchase:	
Cost	$99,000
Shares purchased	600
Cost per share	$ 165
Shares sold—each sale	50
Cost of shares sold—each sale	$ 8,250

Consolidated working papers. Partial consolidated working papers for 1962 prepared from cost-basis accounts are presented on pages 422 and 423.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962
(Cost Method)

	Statements				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
Income Statement:									
Net income from operations				10,000					10,000
Gain on sale of stock		1,750			600 A				1,150
Subsidiary dividend		5,400			5,400 B				
Net income—forward	7,150		10,000						
	7,150	7,150	10,000	10,000					
Minority interest—10% of $10,000							1,000	1,000	
Net income applicable to parent's 10% stock acquisition during the year, but earned prior to acquisition: 10% of ¾ of $10,000					750 C			750	
Consolidated net income—forward					6,750		1,000	9,400	
								11,150	11,150
Statement of Retained Earnings:									
Retained earnings—December 31, 1961:									
Company *P*		14,650				600 A			15,250
Company *S*				62,000	48,200 C		6,200		7,600
Total									22,850
Net income—brought forward		7,150		10,000	6,750		1,000		9,400
Dividends			6,000			5,400 B	600*		
Retained earnings—December 31, 1962—forward	21,800		66,000		54,950	6,000	6,600	32,250	
	21,800	21,800	72,000	72,000				32,250	32,250

Balance Sheet:								
Assets:								
Investment in stock of Company *S* (90%)	150,500							
Eliminate book value at acquisition					138,950 C			
Excess							11,550	
Liabilities and stockholders' equity:								
Capital stock—Company *S*			100,000	90,000 C		10,000		
Retained earnings—brought forward		21,800	66,000	54,950	6,000	6,600		32,250

* Deduction.

Adjustments and Eliminations

A—To adjust gain on sale to a consolidated basis.
B—Elimination of intercompany dividends.
C—Eliminate $750 pre-acquisition earnings applicable to 10% stock interest acquired during the year, and book value at acquisition of stock retained, computed as follows:

Capital stock			$ 90,000
Retained earnings:			
1959 acquisition—50% of $50,000		$25,000	
1960 acquisition—10% of $54,000		5,400	
1961 acquisition—20% of $58,000		11,600	
1962 acquisition:			
Retained earnings—12/31/61	$62,000		
Jan. 1 to Sept. 30 increase—¾ of $10,000	7,500		
10% of	$69,500	6,950	48,950
			$138,950

Adjustment (A)—a $600 debit to the Gain on Sale of Stock account and credit to the parent's retained earnings at the end of 1961—may require some explanation. In the equity-basis working papers on page 419, the gain is shown as $1,150—the correct gain on a consolidated basis. The subsidiary's retained earnings increased $4,000, or $4 per share, during each of the three years between January 1, 1959 (date of purchase of the 50 shares sold in 1962) and the beginning of 1962—a total of $12 per share, or $600 for the 50 shares sold. This $600 would have been taken into consolidated net income during the three years 1959-1961; therefore, it would be incorrect to also regard it as a gain in the consolidated income statement for 1962. The adjustment eliminates the $600 from the Gain on Sale of Stock account; it also adds the $600 to the parent's retained earnings per books at the end of 1961—a convenient procedure for including it in the consolidated retained earnings at the beginning of 1962.

Subsidiary treasury stock. If, at the date of acquisition, the subsidiary holds treasury stock, the carrying value (presumably cost) should be eliminated from the subsidiary's stockholders' equity accounts to determine the net equity at the date of acquisition and the difference between the cost of the subsidiary stock acquired and its book value at the date of acquisition.

Assume that, at acquisition, the subsidiary's accounts showed:

Capital stock	$100,000
Retained earnings	54,000
Treasury stock—100 shares at cost	12,700*
Stockholders' equity	$141,300

* Deduction.

Company P acquired 800 of the 900 outstanding shares at a cost of $130,000; the book value of the stock was $\frac{8}{9}$ of $141,300, or $125,600; therefore, the excess of cost over book value was $4,400. Partial working papers at acquisition are presented on page 425.

Issuance of subsidiary shares to outsiders—Effect on parent's equity. Assume that, on December 31, 1960, Company P was organized with a capital stock of $200,000; that Company S, on that date, had capital stock of $100,000 and retained earnings of $40,000; and that Company P acquired 90% of the stock of Company S for $131,000. Since the book value of the stock acquired was $126,000, the excess of cost over book value was $5,000.

During each of the years 1961 and 1962, the subsidiary had a net income of $30,000 and paid a dividend of $6,000, thus increasing its retained earnings $24,000 each year; the parent had no income other than that derived from its ownership of the stock of Company S and paid no dividends. On January 2, 1962, before the beginning of operations, Company S issued $20,000 par of stock to outsiders.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers

	Company *P*		Company *S*		Adjustments and Eliminations		Minority Interest	Consolidated
BALANCE SHEET:								
Assets:								
Investment in stock of Company *S*—800 shares:								
Book value at acquisition	125,600					125,600 B		
Excess (To be allocated)	4,400							
Stockholders' equity:								
Capital stock:								
Company *P*		500,000						500,000
Company *S*				100,000	10,000 A 80,000 B		10,000	
Company *S* treasury stock			12,700			12,700 A		
Retained earnings:								
Company *P*		250,000						250,000
Company *S*				54,000	2,700 A 45,600 B		5,700	

Equity Method

Consolidated balance sheet—December 31, 1961. Company *P* took up 90% of the subsidiary's net income for 1961 by debit to the investment account, and recorded 90% of the subsidiary's $6,000 dividend by credit to the investment account, thereby increasing the balance of that account to $131,000 + $27,000 − $5,400, or $152,600.

If a consolidated balance sheet was prepared on December 31, 1961, the eliminations from the investment account and from the subsidiary's Capital Stock and Retained Earnings accounts, the minority interest, the excess of the cost of the investment over its book value at acquisition, and the consolidated retained earnings would be as shown below.

	Company *S*		Company *P*	
	Capital Stock	Retained Earnings	Investment in Co. *S*	Retained Earnings
Balances	$100,000	$64,000	$152,600	$27,000
Eliminate reciprocals (90%)	90,000	57,600	147,600	
Minority interest (10%)	$ 10,000	$ 6,400		
Excess of cost over book value			$ 5,000	
Consolidated retained earnings				$27,000

Consolidated balance sheet—January 2, 1962—Stock issued at book value. Assume that the shares, of $20,000 par value, issued on January 2, 1962, were issued at the book value of the shares previously outstanding—$164 per share.

Because the issuance price per share was the same as the book value of the shares held by the parent, there was no change in the parent's equity, as shown below.

	Before Issuance	After Issuance
Subsidiary's stockholders' equity:		
Capital stock	$100,000	$120,000
Paid-in surplus		12,800
Retained earnings	64,000	64,000
Total	$164,000	$196,800
Parent's percentage interest	90%	75%
Parent's equity	$147,600	$147,600

If a consolidated balance sheet were prepared on January 2, 1962, immediately after the issuance of the shares, the eliminations from the parent's investment account and from the subsidiary's stockholders' equity accounts, the minority interest, the excess of cost over book value at acquisition, and the consolidated retained earnings would be as shown on the following page.

	Company S			Company P	
	Capital Stock	Paid-in Surplus	Retained Earnings	Investment in Co. S	Retained Earnings
Balances	$120,000	$12,800	$64,000	$152,600	$27,000
Eliminate reciprocals (75%)	90,000	9,600	48,000	147,600	
Minority interest	$ 30,000	$ 3,200	$16,000		
Excess of cost over book value				$ 5,000	
Consolidated retained earnings					$27,000

Working papers for 1962 statements. In 1962 Company *P* took up its interest (now 75%) in the subsidiary's $30,000 net income and $6,000 dividend through the investment account, thereby increasing the balance in that account to $152,600 (balance on December 31, 1961) + $22,500 − $4,500, or $170,600. Partial consolidated working papers are on page 428.

Working papers for 1962—Stock issued at less than book value. We shall now assume the same facts as in the immediately preceding illustration with the following exception: The additional shares were issued at $150 per share, which was less than the per-share book value of the stock previously outstanding. Consequently there was a reduction in the parent's equity, as shown below.

	Before Issuance	After Issuance
Subsidiary's stockholders' equity:		
Capital stock	$100,000	$120,000
Paid-in surplus		10,000
Retained earnings	64,000	64,000
Total	$164,000	$194,000
Parent's percentage interest	90%	75%
Parent's equity	$147,600	$145,500

To record this dilution in equity, the parent company (if it used the equity method) would make the following entry:

Decrease in equity in Company *S*	2,100	
Investment in stock of Company *S*		2,100
Dilution in interest caused by issuance of shares to outsiders at less than book value.		

The balance in the parent's investment account at the end of 1962 is computed below.

Balance—December 31, 1961		$152,600
Add 75% of $30,000 subsidiary net income		22,500
Total		$175,100
Deduct:		
Decrease in equity	$2,100	
Dividend—75% of $6,000	4,500	6,600
Balance—December 31, 1962		$168,500

Partial consolidated working papers are on page 429.

Stock issued at book value.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962

	Company *P*		Company *S*		Adjustments and Eliminations		Minority Interest	Consolidated	
INCOME STATEMENT:									
Net income:									
From own operations				30,000					30,000
Subsidiary income—75% of $30,000		22,500			22,500 A				
Minority interest—25% of $30,000							7,500	7,500	
Net income—forward	22,500		30,000		22,500		7,500	22,500	
	22,500	22,500	30,000	30,000				30,000	30,000
STATEMENT OF RETAINED EARNINGS:									
Retained earnings—Dec. 31, 1961:									
Company *P*		27,000							27,000
Company *S*—apportioned 75% and 25%				64,000	48,000 A		16,000		
Net income—brought forward		22,500		30,000	22,500		7,500		22,500
Dividends			6,000			4,500 A	1,500*		
Retained earnings—Dec. 31, 1962—forward	49,500		88,000		70,500	4,500	22,000	49,500	
	49,500	49,500	94,000	94,000				49,500	49,500
BALANCE SHEET:									
Assets:									
Investment in stock of Company *S*—75%:									
Book value	165,600					165,600 A			
Excess—subject to allocation	5,000								
Stockholders' equity:									
Capital stock:									
Company *P*		200,000							200,000
Company *S*				120,000	90,000 A		30,000		
Paid-in surplus				12,800	9,600 A		3,200		
Retained earnings—brought forward		49,500		88,000	70,500	4,500	22,000		49,500
Total minority interest							55,200		55,200

* Deduction.

Adjustments and Eliminations

A—Book value of subsidiary stockholdings at end of year.

Stock issued at less than book value.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962

	Company P		Company S		Adjustments and Eliminations		Minority Interest	Consolidated	
Income Statement:									
Net income:									
From own operations				30,000					30,000
Subsidiary income—75% of $30,000		22,500			22,500 A				
Decrease in equity in Company *S*	2,100							2,100	
Minority interest—25% of $30,000							7,500	7,500	
Net income—forward	20,400		30,000		22,500	—	7,500	20,400	
	22,500	22,500	30,000	30,000				30,000	30,000
Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1961:									
Company *P*		27,000							27,000
Company *S*—apportioned 75% and 25%				64,000	48,000 A		16,000		
Net income—brought forward		20,400		30,000	22,500		7,500		20,400
Dividends			6,000			4,500 A	1,500*		
Retained earnings—Dec. 31, 1962—forward	47,400		88,000		70,500	4,500	22,000	47,400	
	47,400	47,400	94,000	94,000				47,400	47,400
Balance Sheet:									
Assets:									
Investment in stock of Company *S*—75%:									
Book value	163,500					163,500 A			
Excess—subject to allocation	5,000								
Stockholders' equity:									
Capital stock:									
Company *P*		200,000							200,000
Company *S*				120,000	90,000 A		30,000		
Paid-in surplus				10,000	7,500 A		2,500		
Retained earnings—brought forward		47,400		88,000	70,500	4,500	22,000		47,400
Total minority interest							54,500		54,500

* Deduction.

Adjustments and Eliminations

A—Book value of subsidiary stockholdings at end of year.

Stock issued at more than book value. Let us now assume the same facts as in the preceding illustration with the following exception: The stock was issued at $180 per share, which was more than book value. Therefore, there was an increase in the parent's equity.

	Before Issuance	After Issuance
Subsidiary's stockholders' equity:		
Capital stock	$100,000	$120,000
Paid-in surplus		16,000
Retained earnings	64,000	64,000
Total	$164,000	$200,000
Parent's percentage interest	90%	75%
Parent's equity	$147,600	$150,000

The parent (if it used the equity method) would make this entry:

Investment in stock of Company *S*	2,400	
Increase in equity in Company *S*		2,400
Increase in interest caused by issuance of shares to outsiders at more than book value.		

The consolidated working paper procedure would be similar to that shown in the preceding illustration.

Cost Method

Working papers for 1962—Stock issued at less than book value. This case is the same as the one starting on page 426, except that it is now assumed that the investment is carried at cost.

When there has been a change in the per cent of the parent's stock ownership in the subsidiary and the cost method is used, the simplest and clearest working paper procedure is to adjust the parent's accounts to the equity basis. This can be accomplished by making the following adjustments in the working papers:

		Adjustments and Eliminations	
INCOME STATEMENT:			
Change 1962 income taken up by parent from cost to equity basis:			
Dividend from subsidiary		4,500	
Subsidiary income—75% of $30,000			22,500
Decrease in equity in Company *S*		2,100	
STATEMENT OF RETAINED EARNINGS:			
Retained earnings—Dec. 31, 1962:			
Company *P*—90% of $24,000 increase in subsidiary's retained earnings since acquisition			21,600
BALANCE SHEET:			
Investment in stock of Company *S*:			
Adjustment to Dec. 31, 1961—as above	$21,600		
Adjustment for 1962 ($22,500 − $4,500)	18,000		
Total	$39,600		
Less decrease in equity	2,100	37,500	

Since these working paper adjustments will convert the accounts from the cost basis to the equity basis, eliminations from the subsidiary's retained earnings can be made from the *at acquisition* and *increase* elements combined.

Working papers are shown on pages 432 and 433.

Stock issued at more than book value. Refer to the equity-basis illustration on page 430, where it was assumed that the new stock was issued at a premium of $16,000, with a resulting gain of $2,400 to the parent company. Cost-basis working papers would be the same as those on pages 432 and 433 except that:

The income statement papers would show an adjustment credit of $2,400 for the increase in equity in Company S, instead of a $2,100 debit.

The balance sheet papers adjustment of the investment account would be $42,000, computed as follows:

Adjustment for parent's share of increase in subsidiary's retained earnings—as on page 430	$39,600
Increase in equity	2,400
Total	$42,000

The balance sheet papers would show a paid-in surplus of $16,000, of which $12,000 would be eliminated and $4,000 would be extended to the Minority Interest column.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962

	Company *P*		Company *S*		Adjustments and Eliminations		Minority Interest	Consolidated	
Income Statement:									
Net income:									
From own operations				30,000					30,000
From subsidiary:									
Dividend		4,500			4,500 A				
Share of income—75% of $30,000					22,500 B	22,500 A			
Decrease in equity in Company *S*					2,100 A			2,100	
Minority interest—25% of $30,000							7,500	7,500	
Net income—forward	4,500		30,000		29,100	22,500	7,500	20,400	
	4,500	4,500	30,000	30,000				30,000	30,000
Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1961:									
Company *P*		5,400				21,600 A			27,000
Company *S*:									
At acquisition				40,000	48,000 B		16,000		
Increase to Dec. 31, 1961				24,000					
Net income—brought forward		4,500		30,000	29,100	22,500	7,500		20,400
Dividends			6,000			4,500 B	1,500*		
Retained earnings—Dec. 31, 1962—forward	9,900		88,000		77,100	48,600	22,000	47,400	
	9,900	9,900	94,000	94,000				47,400	47,400

Balance Sheet:							
Assets:							
Investment in stock of Company *S* (75%):							
Book value	126,000			37,500 A	163,500 B		
Excess—subject to allocation	5,000						
Stockholders' equity:							
Capital stock:							
Company *P*		200,000					200,000
Company *S*			120,000	90,000 B		30,000	
Paid-in surplus			10,000	7,500 B		2,500	
Retained earnings—brought forward		9,900	88,000	77,100	48,600	22,000	47,400
Total minority interest						54,500	54,500

* Deduction.

Adjustments and Eliminations

A—Adjustment from cost to equity basis.

B—Book value of subsidiary stockholdings at end of year.

Subsidiary acquisition of shares from minority. A change in the per cent of the parent's equity in the subsidiary may result if, instead of issuing additional shares, the subsidiary acquires treasury stock from the minority stockholders.

To illustrate, let us assume the same conditions on December 31, 1961, as in the preceding illustrations: The subsidiary had capital stock of $100,000 and retained earnings of $64,000, and the parent owned 90% of its stock. Instead of issuing 200 additional shares, the subsidiary purchased 40 shares from minority stockholders, paying $6,997.33 therefor. As a consequence, the parent suffered a diminution in the book value of its holdings, computed as follows:

	Before	After
Subsidiary's stockholders' equity:		
Capital stock	$100,000.00	$100,000.00
Retained earnings	64,000.00	64,000.00
Treasury stock—40 shares at cost		6,997.33*
Total	$164,000.00	$157,002.67
Parent's fractional interest	90/100	90/96
Parent's equity:		
Before	$147,600.00	
After	147,190.00	$147,190.00
Decrease in equity	$ 410.00	

Equity method working papers. If the parent uses the equity method, it will record the decrease in the equity as follows:

Decrease in equity in Company *S*	410	
Investment in stock of Company *S*		410
Decrease in equity caused by subsidiary's acquisition of shares from minority stockholders at more than book value.		

Assume that, in 1962, the subsidiary earned $30,000 net income and paid a 6% dividend; the parent's investment account at the end of 1962 would have a balance of $174,915, computed as follows:

Balance—December 31, 1961:	
Book value—90% of $164,000	$147,600
Excess payment	5,000
Total	$152,600
Changes in 1962:	
Deduct decrease in equity	410
Remainder	$152,190
Net income—90/96 of $30,000	28,125
Total	$180,315
Deduct dividend—6% of $90,000	5,400
Balance—December 31, 1962	$174,915

Partial consolidated working papers are on pages 435 and 436.

Cost-method working papers. If the parent uses the cost method of accounting for its investment in the subsidiary, working paper adjustments may be made to convert its accounts from the cost basis to the equity basis.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962

	Company P		Company S		Adjustments and Eliminations		Minority Interest	Consolidated	
INCOME STATEMENT:									
Net income from operations				30,000.00					30,000.00
Subsidiary income—$^{90}/_{96}$ of \$30,000		28,125			28,125.00 B				
Decrease in equity in Company S	410							410.00	
Minority interest—$^{6}/_{96}$ of \$30,000							1,875.00	1,875.00	
Net income—forward	27,715		30,000.00				1,875.00	27,715.00	
	28,125	28,125	30,000.00	30,000.00	28,125.00			30,000.00	30,000.00
STATEMENT OF RETAINED EARNINGS:									
Retained earnings—Dec. 31, 1961:									
Company P		27,000							27,000.00
Company S				64,000.00					
Premium on treasury stock					2,997.33 A				
Apportionment of \$61,002.67 in ratio of 90 and 6					57,190.00 B		3,812.67		
Net income—brought forward		27,715		30,000.00	28,125.00		1,875.00		27,715.00
Dividends			5,760.00			5,400.00 B	360.00*		
Retained earnings—Dec. 31, 1962—forward	54,715		88,240.00		88,312.33	5,400.00	5,327.67	54,715.00	
	54,715	54,715	94,000.00	94,000.00				54,715.00	54,715.00

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers (Concluded)
For the Year Ended December 31, 1962

	Company *P*		Company *S*		Adjustments and Eliminations		Minority Interest	Consolidated
BALANCE SHEET:								
Assets:								
Investment in stock of Company *S* (90/96):								
Book value	169,915					169,915.00 B		
Excess—subject to allocation	6,000							
Stockholders' equity:								
Capital stock:								
Company *P*		200,000						200,000.00
Company *S*				100,000.00	4,000.00 A 90,000.00 B		6,000.00	
Retained earnings—brought forward		54,715		88,240.00	88,312.33	5,400.00	5,327.67	54,715.00
Treasury stock—40 shares at cost			6,997.33			6,997.33 A		
Total minority interest							11,327.67	11,327.67
					182,312.33	182,312.33		

* Deduction.

Adjustments and Eliminations

A—Allocation of cost of treasury stock between par value and premium paid.
B—Book value of subsidiary stock at end of year.

Intercompany profits in inventories—Change in per cent of control. If there are intercompany profits in inventories and the profits were made by a subsidiary, consideration should be given to changes in the parent's per cent of control (direct and/or indirect) of the selling subsidiary during the year in which the sale was made or in a subsequent year.

Change in per cent of control during year of sale. If the parent's per cent of control changed during the year in which the sale was made, what per cent should be applied to the intercompany profits in inventories at the end of the year of sale to determine the portion thereof applicable to the parent company's interest? Strict theoretical accuracy would require that the parent's share of the inventory deduction be computed in accordance with the reasoning in the following paragraph.

Assume that the control per cent increased from 80% during the first ten months of the year to 90% during the last two months. The consolidated net income should include 80% of the subsidiary's net income, after adjustments, for the first ten months of the year and 90% of such net income for the last two months. Therefore, the 80% rate should apply to unrealized inventory profits arising from sales during the first ten months and the 90% rate should apply to profits arising from sales during the last two months.

But it usually would be impracticable to classify inventory items by periods of acquisition on a specific identification basis. It may be considered sufficiently accurate to apply the first-in, first-out theory. For instance, referring to the above illustration, if the intercompany-purchased goods in the inventory do not exceed the intercompany purchases during the last two months of the year, the 90% rate may be used; to the extent of any excess, the 80% rate may be used.

A similar reasoning applies if the per cent of control decreased—say, from 90% to 80% at the end of the first ten months of the year. From the consolidated statements standpoint, 90% of the subsidiary's net income for the ten months should be taken into consolidated net income. Therefore, the 90% rate should apply to unrealized intercompany profits arising from sales during the first ten months of the year and the 80% rate should apply to profits arising from sales during the last two months.

A question of materiality may arise. If the difference in the net income effect that would be produced by the use of the procedure described above and the effect that would be produced by using the control per cent at the end of the year is too immaterial to justify the work involved in applying different rates applicable to the different periods of sale, the end-of-year rate may be used.

Change in per cent of control in year subsequent to year of sale. If goods acquired from a subsidiary remain in the purchasing company's inventory at the close of a subsequent period, and if the per cent of control in the selling company changed subsequent to the period in which the intercompany profit was made, the per cent to apply to the intercompany profit remaining in the ending inventory to determine the portion thereof applicable to the consolidated income should be the control per cent applied at the close of the period of the intercompany sale or the control per cent at the close of the period for which consolidated statements are being prepared—whichever is the lower. An increased control per cent should not be used because it would allocate to the consolidated interest a larger percentage deduction than was allocated to it in the period when the intercompany sale was made. A decreased control per cent should be used because the intercompany profit applicable to the sold subsidiary stock may properly be regarded as realized, from the consolidated net income standpoint, by the disposal of the subsidiary stock.

Intercompany profit in fixed assets—Change in per cent of control. The principles stated above applicable to intercompany profits in inventories apply also to intercompany profits in fixed assets. It may be observed, however, that the practical difficulties faced by the accountant in determining the proper control per cent to apply to intercompany profits in inventories at the end of a period in which the per cent changed do not arise in connection with profits on fixed asset transactions. In the case of fixed assets, the date of the transaction that produced the intercompany profit and the control per cent in the selling subsidiary on that date are definitely known.

CHAPTER TWENTY-FOUR

Parent and Subsidiary Accounting (Continued)

Discount and Premium on Intercompany Bonds

Gain or loss on intercompany bond purchases. If a company purchases bonds issued by an affiliated company, the bonds should be treated, in the consolidated statements for the year of purchase and for subsequent years until their maturity, as though they had been retired. A gain or loss from the consolidated standpoint may result if there was any

Discount on purchase;
Premium on purchase;

Unamortized issuance discount;
Unamortized issuance premium.

We shall first consider the working paper treatment of each of these four discount and premium items on the assumption that it existed alone; later we shall consider cases in which there was a discount or premium on the purchase and also unamortized issuance discount or premium.

Discount on purchase. Assume that a company acquired at a discount some bonds originally issued by a related company at par. The assumed facts are stated on page 441.

Adjustments and Eliminations
Bonds Issued at Par—Acquired at a Discount
(Starred Items are Credits)

	Accounts of Issuing Company: Bonds Payable	Accounts of Issuing Company: Interest Expense	Accounts of Purchasing Company: Bonds Owned	Accounts of Purchasing Company: Interest Earned	Accounts of Purchasing Company: Retained Earnings Beginning of Year	Gain from Acquisition of Intercompany Bonds
1960						
Balances per books	100,000*	4,000	19,250			
Adjustment			750 A			750* A
Elimination—Intercompany bonds	20,000		20,000*			
Balances per consolidated statements	80,000*	4,000	—			750*
1961						
Balances per books	100,000*	4,000	19,500	1,050*		
Adjustment			500 A	250 A	750* A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800		
Balances per consolidated statements	80,000*	3,200	—	—	750*	
1962						
Balances per books	100,000*	4,000	19,750	1,050*		
Adjustment			250 A	250 A	500* A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800		
Balances per consolidated statements	80,000*	3,200	—	—	500*	
1963						
Balances per books	100,000*	4,000	20,000	1,050*		
Adjustment				250 A	250* A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800		
Balances per consolidated statements	80,000*	3,200	—	—	250*	

If the purchasing company is a 90%-owned subsidiary, the minority interest in the net income is:
For year of purchase—10% of (subsidiary's net income per books plus the $750 discount).
For subsequent years—10% of (subsidiary's net income per books minus the $250 adjustment of interest earned).

Bonds payable:		
Carrying value—par		$100,000
Interest rate		4%
Maturity date		January 1, 1964
Bonds purchased:		
Par	$20,000	
Discount	750	$ 19,250
Date of purchase		December 31, 1960

From a consolidated statement standpoint, there was a prematurity retirement of a portion of the bonded debt, and the issuance at par and retirement at a discount resulted in a gain of $750. In the consolidated income statement, this gain can be described as "Gain from acquisition of intercompany bonds."

The adjustments and eliminations are tabulated on page 440. (In accordance with the customary accounting procedure, Bonds Owned was debited with the cost—instead of the par with a contra credit to Discount on Bonds Owned.)

The purchasing company's credits to Interest Earned include:

Coupon interest—4% of $20,000	$ 800
Discount amortization—1/3 (because there were three years between the date of purchase and maturity) of $750	250
Total	$1,050

The Retained Earnings Beginning of Year column shows only the *adjustments* of the account.

Explanation of Adjustment A

Year of bond purchase:

Bonds Owned debited—to increase the balance of the account to par, so that the intercompany bondholdings can be eliminated.

Gain from Acquisition of Intercompany Bonds credited—to recognize the purchase discount as a gain from the consolidated standpoint.

Subsequent years:

Bonds Owned debited—for the reason stated above. The amounts decrease annually because the discount amortizations per books increase the balance of the account. No debit is required at the end of 1963 because the discount has been fully amortized.

Interest Earned debited for the amount of the discount amortized during the year by credit to Interest Earned per books. It would be incorrect to take the purchase discount into consolidated earnings in full in the year of purchase and also in installments in subsequent years by discount amortizations.

Retained Earnings at the beginning of the year credited to adjust from book basis to consolidated basis. The decreasing annual amounts are:

The gain (consolidated basis) minus the discount amortizations taken into income (book basis) in years prior to the statement year, and hence into retained earnings (book basis) at the beginning of the statement year.

Purchase at interim date. In the preceding illustration, the purchase was made at a year end. No special problems arise in the case of a purchase between interest dates. To illustrate, assume the following facts (the changes from the preceding illustration are indicated by italics):

Bonds payable:		
Carrying value—par		$100,000.00
Interest rate		4%
Maturity		January 1, 1964
Bonds purchased:		
Par	$20,000.00	
Discount	*562.50*	*$ 19,437.50*
Date of purchase		*October 1, 1961*

It is assumed that the purchase was made at the same rate of discount as in the preceding illustration. In that illustration, the purchase was made three years before maturity and the discount was $750. It is now assumed that the purchase was made two years and three months before the maturity of the bonds. Therefore, at the same rate the discount would be 2.25/3 of $750, or $562.50.

The purchasing company's account balances at the end of 1961 are determined as follows (starred items are credits):

	Interest Earned	Accrued Interest Receivable	Bonds Owned
Oct. 1, 1961—Bonds purchased			$19,437.50
Accrued interest purchased—¼ of 4% of $20,000		$200.00	
Dec. 31, 1961—Coupon collected—½ of 4% of $20,000	$200.00*	200.00*	
Discount amortized—For ¼ year at rate of $250 per year	62.50*		62.50
Balances per books	$262.50*	—	$19,500.00

In the working papers on page 443, the adjustments and eliminations differ for 1961 from those in the preceding illustration because the purchase is now assumed to have been made during that year. The adjustments and eliminations for 1962 and 1963 are the same as in the preceding illustration.

Purchase at Interim Date
Adjustments and Eliminations
Bonds Issued at Par—Acquired at a Discount
(Starred Items are Credits)

	Accounts of Issuing Company		Accounts of Purchasing Company			
	Bonds Payable	Interest Expense	Bonds Owned	Interest Earned	Retained Earnings Beginning of Year	Gain from Acquisition of Inter-company Bonds
1961						
Balances per books	100,000*	4,000	19,500	262.50*		
Adjustment			500 A	62.50 A		562.50* A
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		200*		200.00		
Balances per consolidated statements	80,000*	3,800	—	—		562.50*
1962						
Balances per books	100,000*	4,000	19,750	1,050.00*		
Adjustment			250 A	250.00 A	500* A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800.00		
Balances per consolidated statements	80,000*	3,200	—	—	500*	
1963						
Balances per books	100,000*	4,000	20,000	1,050.00*		
Adjustment				250.00 A	250* A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800.00		
Balances per consolidated statements	80,000*	3,200	—	—	250*	

Premium on purchase. Assume the same facts as in the first illustration except that the bonds were purchased at a premium of $750 instead of at a discount.

Again, from a consolidated statement standpoint, there was a pre-maturity retirement of a portion of the bonded debt; the issuance at par and retirement at a premium resulted in a loss of $750. In the consolidated income statement, this loss can be described as "Loss from acquisition of intercompany bonds."

The adjustments and eliminations are tabulated on page 445. The $550 credit to Interest Earned on the books of the purchasing company is a net amount computed as follows:

Coupon interest—4% of $20,000	$800
Less premium amortization—⅓ of $750	250
Net	$550

Explanation of Adjustment A

Year of purchase:

Bonds Owned credited—to decrease the balance of the account to par, so that the intercompany bondholdings can be eliminated.

Loss from Acquisition of Intercompany Bonds debited—to recognize the purchase premium as a loss from the consolidated standpoint.

Subsequent years:

Bonds Owned credited—for the reason stated above. The amounts decrease annually because the premium amortizations per books decrease the balance in the account. No credit is required at the end of 1963 because the premium has been fully amortized.

Interest Earned credited for the amount of the premium amortized during the year by debit to Interest Earned per books. It would be incorrect to treat the purchase premium as a loss in the year of purchase and also as a reduction of interest income in subsequent years.

Retained Earnings at the beginning of the year debited to adjust from book basis to consolidated basis. The decreasing annual amounts are:

The loss (consolidated basis) minus the premium amortizations charged against income (book basis) in years prior to the statement year, thus reducing the retained earnings (book basis) at the beginning of the statement year.

Adjustments and Eliminations
Bonds Issued at Par—Acquired at a Premium
(Starred Items are Credits)

	Accounts of Issuing Company		Accounts of Purchasing Company			Loss from Acquisition of Inter-company Bonds
	Bonds Payable	Interest Expense	Bonds Owned	Interest Earned	Retained Earnings Beginning of Year	
1960						
Balances per books	100,000*	4,000	20,750			
Adjustment			750* A			750 A
Elimination—Intercompany bonds	20,000		20,000*			
Balances per consolidated statements	80,000*	4,000	—			750
1961						
Balances per books	100,000*	4,000	20,500	550*		
Adjustment			500* A	250* A	750 A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800		
Balances per consolidated statements	80,000*	3,200	—	—	750	
1962						
Balances per books	100,000*	4,000	20,250	550*		
Adjustment			250* A	250* A	500 A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800		
Balances per consolidated statements	80,000*	3,200	—	—	500	
1963						
Balances per books	100,000*	4,000	20,000	550*		
Adjustment				250* A	250 A	
Eliminations—Intercompany bonds	20,000		20,000*			
—Intercompany interest		800*		800		
Balances per consolidated statements	80,000*	3,200	—	—	250	

If the purchasing company is a 90%-owned subsidiary, the minority interest in the net income is:
For year of purchase—10% of (subsidiary's net income per books minus the $750 premium).
For subsequent years—10% of (subsidiary's net income per books plus the $250 adjustment of interest earned).

Unamortized issuance discount. Assume that a company acquired at par some bonds originally issued by a related company at a discount. The assumed facts are stated below:

Bonds payable:		
Carrying value:		
Par	$100,000	
Unamortized issuance discount—3%	3,000	$97,000
Interest rate		4%
Maturity date		January 1, 1964
Bonds purchased—par and cost		$20,000
Date of purchase		December 31, 1960

From a consolidated statement standpoint, there was a pre-maturity retirement of a portion of the bonded debt at a loss of $600, the three per cent unamortized issuance discount on the $20,000 of bonds acquired. In the consolidated income statement, this loss can be described as "Loss from acquisition of inter-company bonds."

The adjustments and eliminations are tabulated on the opposite page. The issuing company's debits to Interest Expense include:

Coupon interest—4% of $100,000	$4,000
Discount amortization—⅓ of $3,000	1,000
Total	$5,000

Explanation of Adjustment A

Year of purchase:

Unamortized Discount on Bonds Payable credited—to reduce the balance of the account (for consolidated statement purposes) by the amount of the unamortized issuance discount applicable to the intercompany bonds.

Loss from Acquisition of Intercompany Bonds debited—to recognize the unamortized issuance discount as a loss from the consolidated standpoint.

Subsequent years:

Unamortized Discount on Bonds Payable credited—for the reason stated above. The amounts decrease annually because the discount amortizations per books decrease the unamortized discount. No credit is required at the end of 1963 because the discount has been fully amortized.

Interest Expense credited for the amount of the discount amortized during the year by debit to Interest Expense per books. It would be incorrect to treat the unamortized issuance discount applicable to the intercompany bonds as a loss in the year of purchase and also as a charge to Interest Expense in subsequent years. (*Continued on page 448.*)

Adjustments and Eliminations
Bonds Issued at a Discount—Acquired at Par
(Starred Items are Credits)

	Accounts of Issuing Company					Accounts of Purchasing Company	
	Bonds Payable	Unamortized Discount on Bonds Payable	Interest Expense	Retained Earnings Beginning of Year	Loss from Acquisition of Inter-company Bonds	Bonds Owned	Interest Earned
1960							
Balances per books	100,000*	3,000	5,000			20,000	
Adjustment		600*			600		
Elimination—Intercompany bonds	20,000					20,000*	
Balances per consolidated statements	80,000*	2,400	5,000		600	—	
1961							
Balances per books	100,000*	2,000	5,000			20,000	800*
Adjustment		400* A	200* A	600 A			
Eliminations—Intercompany bonds	20,000					20,000*	
—Intercompany interest			800*				800
Balances per consolidated statements	80,000*	1,600	4,000	600		—	—
1962							
Balances per books	100,000*	1,000	5,000			20,000	800*
Adjustment		200* A	200* A	400 A			
Eliminations—Intercompany bonds	20,000					20,000*	
—Intercompany interest			800*				800
Balances per consolidated statements	80,000*	800	4,000	400		—	—
1963							
Balances per books	100,000*	—	5,000			20,000	800*
Adjustment			200* A	200 A			
Eliminations—Intercompany bonds	20,000					20,000*	
—Intercompany interest			800*				800
Balances per consolidated statements	80,000*	—	4,000	200		—	—

If the issuing company is a 90%-owned subsidiary, the minority interest in the net income is:
For year of purchase—10% of (subsidiary's net income minus the $600 unamortized discount applicable to the intercompany bonds).
For subsequent years—10% of (subsidiary's net income plus the $200 adjustment of interest expense).

Retained Earnings at the beginning of the year debited—to adjust from book basis to consolidated basis. The decreasing annual amounts are:

The loss (consolidated basis) minus the discount amortizations applicable to the intercompany bonds charged to Interest Expense (book basis) in years prior to the statement year, thus reducing the retained earnings (book basis) at the beginning of the statement year.

Unamortized issuance premium. Assume the same facts as in the preceding illustration except that the bonds were issued at a premium instead of a discount.

Again, from a consolidated standpoint, there is a pre-maturity retirement of a portion of the bonded debt; the issuance of bonds at a premium and their retirement at par is an immediate gain from the consolidated standpoint; the amount of the gain is the $600 of unamortized premium on the acquired bonds.

The adjustments and eliminations are tabulated on the following page. The $3,000 debit to Interest Expense is the net amount of the following items:

Coupon interest—4% of $100,000	$4,000
Premium amortization—⅓ of $3,000	1,000
Net	$3,000

Explanation of Adjustment A

Year of purchase:

Unamortized Premium on Bonds Payable debited;

Gain from Acquisition of Intercompany Bonds credited:

To treat the unamortized issuance premium on the intercompany bonds as a gain.

Subsequent years:

Unamortized Premium on Bonds Payable debited—because the unamortized premium on the intercompany bonds was treated as a gain in the year of purchase. The amounts decrease annually because the premium amortizations per books decrease the unamortized premium. No debit is required at the end of 1963 because the issuance premium has been fully amortized.

Interest Expense debited for the amount of the premium amortized during the year by credit to Interest Expense. It would be incorrect to treat the unamortized issuance premium applicable to the intercompany bonds as a gain in the year of purchase and also as a reduction in interest expense in subsequent years. (*Continued on page 450.*)

Adjustments and Eliminations
Bonds Issued at a Premium—Acquired at Par
(Starred Items are Credits)

	Accounts of Issuing Company					Accounts of Purchasing Company	
	Bonds Payable	Unamortized Premium on Bonds Payable	Interest Expense	Retained Earnings Beginning of Year	Gain from Acquisition of Intercompany Bonds	Bonds Owned	Interest Earned
1960							
Balances per books	100,000*	3,000*	3,000			20,000	
Adjustment		600 A			600* A		
Elimination—Intercompany bonds	20,000					20,000*	
Balances per consolidated statements	80,000*	2,400*	3,000		600*	—	
1961							
Balances per books	100,000*	2,000*	3,000			20,000	800*
Adjustment		400 A	200 A	600* A			
Eliminations—Intercompany bonds	20,000					20,000*	
—Intercompany interest			800*				800
Balances per consolidated statements	80,000*	1,600*	2,400	600*		—	—
1962							
Balances per books	100,000*	1,000*	3,000			20,000	800*
Adjustment		200 A	200 A	400* A			
Eliminations—Intercompany bonds	20,000					20,000*	
—Intercompany interest			800*				800
Balances per consolidated statements	80,000*	800*	2,400	400*		—	—
1963							
Balances per books	100,000*	—	3,000			20,000	800*
Adjustment			200 A	200* A			
Eliminations—Intercompany bonds	20,000					20,000*	
—Intercompany interest			800*				800
Balances per consolidated statements	80,000*	—	2,400	200*		—	—

If the issuing company is a 90%-owned subsidiary, the minority interest in the net income is:
For year of purchase—10% of (subsidiary's net income plus the $600 premium).
For subsequent years—10% of (subsidiary's net income minus the $200 interest expense adjustment).

Retained Earnings at the beginning of the year credited—to adjust from book basis to consolidated basis. The decreasing annual amounts are:

The gain (consolidated basis) minus the premium amortizations applicable to the intercompany bonds credited to Interest Expense (book basis) in years prior to the statement year, thus entering into the retained earnings (book basis) at the beginning of the statement year.

Purchase and unamortized discount or premium. Having, on the preceding pages, considered purchase discount, purchase premium, unamortized issuance discount, and unamortized issuance premium separately, we shall now consider their working paper treatment in combinations.

The amount of the gain or loss on an intercompany bond purchase is the difference between, or the sum of:

Any purchase discount or premium
and
Any unamortized issuance discount or premium.

Illustrations of gain and loss computations covering all gain or loss situations are shown in the tabulation on page 451. If the per-books credits exceed the per-books debits, a gain results; in the opposite situation, a loss results.

The consolidated-basis gain or loss on an intercompany bond purchase need not be computed as a preliminary step in the preparation of consolidated working papers. It is automatically computed. Use a line called "*Loss or gain from acquisition of intercompany bonds*" in the Income Statement section of the working papers. (See page 453.) A net or gross adjustment credit on this line is shown in the consolidated income statement as "*Gain from acquisition of intercompany bonds*"; a net or gross debit is shown as "*Loss from acquisition of intercompany bonds.*"

Gains and Losses on Intercompany Bond Purchases

	Debits per Books		Credits per Books			
	Premium on Purchase	Unamortized Issuance Discount	Discount on Purchase	Unamortized Issuance Premium	Loss	Gain
Purchase and issuance at discount:						
		$600	$750			$150
		600	400		$200	
Purchase and issuance at premium:						
	$750			$600	150	
	400			750		350
Purchase discount; unamortized premium (A gain will always result)			750	200		950
Purchase premium; unamortized discount (A loss will always result)	500	200			700	

Consolidated working papers. A single illustration will suffice to show the consolidated working paper technique.

Assume that, on December 31, 1960, Company *P* (parent) purchased $20,000 of 4% bonds at a discount of $750. The bonds mature three years after the date of purchase. (See the case starting on page 439; the adjustments of Company *P*'s accounts will be the same as those of the purchasing company in that case.)

The bonds, of a total par value of $100,000, had been issued by Company *S* (a 90%-owned subsidiary). At the date of the intercompany purchase, the unamortized issuance discount was 3% of par; therefore, the unamortized issuance discount on the intercompany bonds was 3% of $20,000, or $600. (See the case on page 446; the adjustments of Company *S*'s accounts will be the same as those of the issuing company in that case.)

The interest income on Company *P*'s books consists of:	
Coupon—4% of $20,000	$ 800
Amortization of purchase discount	250
Total	$1,050
The interest expense on Company *S*'s books consists of:	
Coupon—4% of $100,000	$4,000
Amortization of issuance discount	1,000
Total	$5,000

Illustrative working papers for 1960 and 1961 are presented on pages 453–454.

Issuance and purchase by subsidiaries. If, in the preceding illustration, both the issuing and the purchasing company had been subsidiaries, the adjustments and eliminations would not be affected. Minority interests in either or both of the companies would be computed in the manner already stated.

Holdings of Subsidiary Preferred and Common Stocks

Special problems arise if a parent owns both preferred and common stocks of a subsidiary. These problems have to do with:

The apportionment of the subsidiary's retained earnings at the date or dates of acquisition, for the purpose of determining the book values of the two classes of shares at acquisition.

The apportionment of subsidiary net income for a period between the consolidated net income and the minority interest.

Apportionment of retained earnings. As a background for consideration of the consolidated statement procedures, it may be desirable to consider briefly the matter of (*Continued on page 455.*)

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1960

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
Income Statement:									
Net income from operations		35,000		17,000					52,000
Interest expense			5,000					5,000	
Loss or gain from acquisition of intercompany bonds					600 B	750 A			150
Minority interest—10% of ($12,000 − $600)							1,140	1,140	
Net income—forward	35,000		12,000		600	750	1,140	46,010	
	35,000	35,000	17,000	17,000				52,150	52,150
Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1959:									
Company *P*		95,000							95,000
Company *S*:									
At acquisition				—			—		—
Increase to Dec. 31, 1959				36,000			3,600		32,400
Total									127,400
Net income—brought forward		35,000		12,000	600	750	1,140		46,010
Balance Sheet:									
Bonds owned	19,250				750 A	20,000 D			
Bonds payable				100,000	20,000 D				80,000
Unamortized discount on bonds payable			3,000			600 B		2,400	

Adjustments and Eliminations

A—Purchase discount.
B—Issuance discount on intercompany bonds.
D—Intercompany bonds.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1961

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Minority Interest	Consolidated	
	Company *P*		Company *S*						
Income Statement:									
Net income from operations		35,000		17,000					52,000
Interest earned		1,050			{250 A 800 C				
Interest expense			5,000			200 B 800 C}		4,000	
Minority interest—10% of ($12,000 + $200)							1,220	1,220	
Net income—forward	36,050		12,000		1,050	1,000	1,220	46,780	
	36,050	36,050	17,000	17,000				52,000	52,000
Statement of Retained Earnings:									
Retained earnings—Dec. 31, 1960:									
Company *P*		130,000				750 A			130,750
Company *S*:									
At acquisition				—			—		—
Increase to Dec. 31, 1960				48,000	600 B		4,740		42,660
Total									173,410
Net income—brought forward		36,050		12,000	1,050	1,000	1,220		46,780
Balance Sheet:									
Bonds owned	19,500				500 A	20,000 D			
Bonds payable				100,000	20,000 D				80,000
Unamortized discount on bonds payable			2,000			400 B		1,600	

Adjustments and Eliminations

A—Purchase discount.
B—Issuance discount on intercompany bonds.
C—Intercompany cash interest.
D—Intercompany bonds.

Observe that adjustment of the subsidiary's retained earnings at the beginning of the year is entered on the line for the increase in the subsidiary's retained earnings between the date of the parent's stock acquisition and the beginning of the statement year.

retained earnings apportionments between different classes of stock. This matter was considered at some length on pages 156–160 of *Principles of Accounting—Intermediate*. For our present purposes, it is sufficient to note that:

(1) If the preferred stock is nonparticipating and noncumulative, the retained earnings appertain wholly to the common stock.
(2) If the preferred stock is nonparticipating and cumulative and there are no dividends in arrears, the retained earnings appertain wholly to the common stock.
(3) If the preferred stock is nonparticipating and cumulative and dividends are in arrears, retained earnings equal to the dividends in arrears appertain to the preferred stock, and the remainder appertains to the common stock.
(4) If the preferred stock is fully participating, the retained earnings are apportionable ratably between the preferred and common stocks.

The consolidated working paper procedure is basically the same under all of these conditions; therefore, in the following illustrations, we shall deal mostly with only one condition: it will be assumed that the preferred stock is fully participating.

Consolidated balance sheet at date of acquisition. The subsidiary has \$100,000 par value of common stock and \$50,000 par value of participating preferred stock outstanding. The parent company acquires 90% of the common stock and 60% of the preferred stock on December 31, 1961, when the subsidiary has retained earnings of \$30,000. The apportionment of the subsidiary's retained earnings is shown below:

Apportionment of Subsidiary's Retained Earnings

		Parent's Portion		Minority Interest	
	Total	Per Cent	Amount	Per Cent	Amount
To common stock—⅔	\$20,000	90%	\$18,000	10%	\$2,000
To preferred stock—⅓	10,000	60	6,000	40	4,000
Total	\$30,000		\$24,000		\$6,000

Consolidated balance sheet working papers at the date of acquisition are shown on page 456.

The minority interest could be shown in the consolidated balance sheet in one amount, or detailed as follows:

Minority interest:		
Common stock	\$10,000	
Preferred stock	20,000	
Retained earnings	6,000	\$36,000

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
December 31, 1961

Assets	Company *P*	Company *S*	Adjustments and Eliminations (Dr.)	Adjustments and Eliminations (Cr.)	Minority Interest	Consolidated
Sundry net assets	216,000	180,000				396,000
Investments in subsidiary stock (at cost):						
Common stock (90%)	108,000			108,000 A		
Preferred stock (60%)	36,000			36,000 B		
	360,000	180,000				396,000
Liabilities and Stockholders' Equity						
Capital stock:						
Company *P*	300,000					300,000
Company *S*:						
Common		100,000	90,000 A		10,000	
Preferred		50,000	30,000 B		20,000	
Retained earnings:						
Company *P*	60,000					60,000
Company *S*		30,000	18,000 A 6,000 B		6,000	
	360,000	180,000	144,000	144,000		
Total minority interest					36,000	36,000
						396,000

Adjustments and Eliminations

A—Book value of 90% of common stock.
B—Book value of 60% of preferred stock.

Complete set of statements—Subsequent year. Working papers for a complete set of consolidated statements for the year ended December 31, 1963, appear on pages 458 and 459. The only new features resulting from the ownership of two classes of stock are:

The detailing by classes of stock of the apportionment, in the Income Statement section, of the subsidiary's net income between the minority and consolidated interests. The computation of the amounts applicable to the minority interests in the common and preferred stocks is explained in the working papers.

The apportionment, in the Statement of Retained Earnings section, of the $6,000 increase in the subsidiary's retained earnings between the date of acquisition and December 31, 1962. The amounts applicable to the minority interests were computed as follows:

Common stock—10% of ⅔ of $6,000	$400
Preferred stock—40% of ⅓ of $6,000	800

COMPANY P AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1963

	Statements: Company P	Statements: Company S	Adjustments and Eliminations		Minority Interest	Consolidated
Income Statement:						
Income from operations	62,000	20,000				82,000
Expenses	26,200	8,000				34,200
Net income from operations	35,800	12,000				47,800
Dividends from subsidiary:						
Common	5,400		5,400 A			
Preferred	1,800		1,800 B			
Minority interest:						
Common stock—10% of ⅔ of $12,000					800	2,400
Preferred stock—40% of ⅓ of $12,000					1,600	
Net income—forward	43,000	12,000	7,200		2,400	45,400
Statement of Retained Earnings:						
Retained earnings—Dec. 31, 1962:						
Company P	95,000					95,000
Company S:						
At acquisition		30,000	18,000 C 6,000 D		6,000	
Increase to Dec. 31, 1962		6,000			400 800	4,800
Total	95,000	36,000			7,200	99,800
Net income—brought forward	43,000	12,000	7,200		2,400	45,400
Total	138,000	48,000			9,600	145,200
Dividends:						
Company P	18,000					18,000
Company S:						
Common		6,000		5,400 A	600	
Preferred		3,000		1,800 B	1,200	
Total dividends	18,000	9,000			1,800	18,000
Retained earnings—Dec. 31, 1963—forward	120,000	39,000	31,200	7,200	7,800	127,200

BALANCE SHEET:						
Assets:						
Sundry net assets	276,000	189,000				465,000
Investments in subsidiary stock (at cost):						
Common stock (90%)	108,000			108,000 C		
Preferred stock (60%)	36,000			36,000 D		
	420,000	189,000				465,000
Liabilities and stockholders' equity:						
Capital stock:						
Company *P*	300,000					300,000
Company *S*:						
Common		100,000	90,000 C		10,000	
Preferred		50,000	30,000 D		20,000	
Retained earnings—brought forward	120,000	39,000	31,200	7,200	7,800	127,200
Total minority interest					37,800	37,800
	420,000	189,000	151,200	151,200		465,000

Adjustments and Eliminations

A—Intercompany dividends—Common.
B—Intercompany dividends—Preferred.
C—Book value of 90% of common stock.
D—Book value of 60% of preferred stock.

Nonparticipating preferred stock. If a subsidiary has nonparticipating preferred stock outstanding, consideration must be given to any dividends thereon in computing consolidated net income. In a sense, dividends on nonparticipating preferred shares owned by outsiders are an expense from the viewpoint of consolidated statements. Also, in determining the minority interest in the net income of a subsidiary, preferred dividends should be deducted in the same manner as intercompany profits are deducted.

To illustrate, the preceding illustration will be modified as follows: It will be assumed that the 6% preferred stock of the subsidiary is nonparticipating.

The Income Statement section of the consolidated working papers is shown below.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1963

	Statements		Adjustments and	Minority	
	Company *P*	Company *S*	Eliminations	Interest	Consolidated
INCOME STATEMENT:					
Income from operations	62,000	20,000			82,000
Expenses	26,200	8,000			34,200
Net income from operations	35,800	12,000			47,800
Dividends from subsidiary:					
Common	5,400		5,400 A		
Preferred	1,800		1,800 B		
Minority interest:					
Common stock—10% of ($12,000 − $3,000)				900 }	2,100
Preferred stock—40% of $3,000				1,200 }	
	43,000	12,000	7,200	2,100	45,700

CHAPTER TWENTY-FIVE

Parent and Subsidiary Accounting (Continued)

Miscellaneous Matters

Consolidation policy. Over the years a great deal of consideration has been given to the question: What subsidiaries should be consolidated? To a considerable extent, decisions must be left to the judgment of the accountant who is preparing the consolidated statements, but he should be guided, although not inflexibly controlled, by the tenets developed by the accounting profession. Special circumstances may sometimes properly affect the accountant's decisions.

Some of the tenets constituting consolidation policy are discussed below.

Voting control. The relation of parent and subsidiary does not exist unless one company controls more than 50% of the voting stock of the other company. Control may be exercised directly, as in the case of parent-and-son affiliations; indirectly, as in the case of father-son-grandson affiliations; or partly directly and partly indirectly. It is generally held that a company's accounts should not be included in consolidated statements unless the company is a subsidiary.

The idea has been advanced that consolidated statements may be sanctioned if one company has effective control of another company although it does not hold a majority of its stock. Under modern conditions, with numerous holders of small blocks of stock

and the extensive use of proxies, effective control is often exercised without majority ownership of voting stock. The inclusion of the accounts of such an "effectively" controlled company is improper; there is no actual voting control and there can be no assurance of continuing effective control.

Some companies, particularly railroads, may be controlled by means of long-term leases, and the inclusion of their accounts in consolidated statements has sometimes been advocated. Their inclusion would be in violation of the basic tenet that voting control is essential.

In Chapter 5, mention was made of the fact that two companies may each acquire 50% interests in the stock of a company. Some pressure has been exercised on public accountants to consolidate the accounts of such 50%-owned companies. It has been contended that, for very practical business reasons, there has been a great increase in 50%-owned companies since the end of World War II, and that the control tenet is outmoded. It is maintained that the investments in such companies, as well as their earnings, are of such significant amounts that their exclusion from consolidated statements results in the omission of a material, integrated segment of the enterprise. It is asserted that the submission of separate statements for such companies and footnote disclosures, in the owning companies' consolidated statements, of their interests in the assets, periodic income, and retained earnings of the 50%-owned companies do not constitute a fair or adequate presentation of the facts when the amounts are material.

The accounting profession has not reacted favorably to the arguments in advocacy of a departure from the long-established rule that voting control is a prerequisite to consolidation. It is believed that the investment should be shown in the consolidated balance sheet at cost; that only dividends received should be included in the consolidated income statement; and that supplementary information, such as the underlying equity in net assets and interests in current income and retained earnings, should be presented in footnotes.

Supplementary matters related to voting control. Even if a parent owns 100% of the voting stock of a subsidiary, it still has no legal ownership of the subsidiary's *assets*, but a condition exists which, for consolidated statement purposes, is *assumed* to represent effective ownership. If the parent company controls only 95% of the subsidiary stock, there is a 5% error in the assumption of effective ownership; but this error is regarded as insignificant and is adequately disclosed by the disclosure of the minority interest in the consolidated statements. But if there is a 49% minority interest,

the degree of error in the assumption is so great that many accountants believe that the accounts of such a subsidiary should not be included in consolidated statements. Unfortunately, there is no well-accepted rule concerning the percentage of voting-stock control required to justify the inclusion of a subsidiary's accounts in consolidated statements. Some accountants appear to believe that a 60% interest is sufficient; others regard a 75% or an 80% interest as a minimum.

Consideration should also be given to the relationship of the parent's equity to the entire stockholders' equity in the subsidiary. For instance, if a subsidiary's stockholders' equity includes \$100,000 of voting stock, 75%-owned by the parent, and \$100,000 of nonvoting participating preferred stock, none of which is owned by the parent, the 75% voting control represents only a 37½% interest in the net assets of the subsidiary, and the outside interest represents 62½%.

Consideration should also be given to the size of the subsidiary. If a subsidiary is so small that a 40% minority interest is insignificant in comparison with the consolidated stockholders' equity, there appears to be no serious objection to consolidating its accounts. On the other hand, a 25% minority interest in a large subsidiary might be so great proportionately as to raise a serious question as to the propriety of consolidating its accounts.

There should be reasonable assurance that control will continue. The accounts of a subsidiary usually should be excluded from consolidation if it is the parent's intention to dispose of the stock; otherwise, the comparability of statements for successive periods might be impaired. The same considerations would apply if there was a prospect of an involuntary loss of control, such as would result if nonpayment of preferred dividends should cause the voting control to be taken over by the holders of preferred stock not owned by the parent.

Management control. The second major tenet affecting consolidation policy is the exercise of management control for the purpose of integrating the operations of the subsidiary with those of the other members of the group. A subsidiary should be excluded from consolidation if management control, although possible, is not exercised, or if such control is impossible because the company is in receivership or controlled by a creditors' committee.

Homogeneity. If the assets and operations of a subsidiary are not homogeneous with those of the other members of the affiliated group, the inclusion of its accounts in consolidated statements may be more confusing than enlightening. For instance, automobile finance companies frequently have subsidiary insurance companies

which carry the insurance on cars that serve as security to the parent company's receivables; consolidated statements of a finance company and an insurance company might be difficult to interpret. It might be preferable to submit separate statements for the insurance company.

A lack of homogeneity in assets and operations is not a reason without exception for the exclusion of the accounts of a subsidiary. Complete consolidation may be preferable to submitting separate statements for a considerable number of subsidiaries. Each case should be decided separately, in the light of all the attendant circumstances.

Different fiscal periods. The following is quoted from *Accounting Research Bulletin* No. 51, issued in August, 1959:

"A difference in fiscal periods of a parent and a subsidiary does not of itself justify the exclusion of the subsidiary from consolidation. It ordinarily is feasible for the subsidiary to prepare, for consolidation purposes, statements for a period which corresponds with or closely approaches the fiscal period of the parent. However, where the difference is not more than about three months, it usually is acceptable to use, for consolidation purposes, the subsidiary's statements for its fiscal period; when this is done, recognition should be given by disclosure or otherwise to the effect of intervening events which materially affect the financial position or results of operations."

Foreign subsidiaries. Under normal conditions, the consolidation of the accounts of foreign subsidiaries usually is regarded as permissible, and even desirable. But if the subsidiary's operations are conducted in a foreign country at war, or if geographical or legal considerations impair control by the parent, or if there are exchange restrictions, or if for any other reason the free flow of funds between the parent and the subsidiary is impeded, consolidated statements usually are undesirable.

This subject is discussed further in the chapter on foreign exchange.

Disclosure of consolidation policy. If a subsidiary is excluded from consolidation, the fact of the exclusion and the reasons therefor should be disclosed. Adequate information may be furnished in the headings or body of the statements; otherwise, footnotes should be used.

If a subsidiary not consolidated is of material size, or if its net income or loss for the period or the change in its retained earnings since acquisition is significant, the consolidated statements may be supplemented by statements of the subsidiary.

Unconsolidated subsidiaries in consolidated statements. The following is quoted from *Accounting Research Bulletin* No. 51.

"There are two methods of dealing with unconsolidated subsidiaries in consolidated statements. Whichever method is adopted should be used for all unconsolidated subsidiaries, subject to appropriate modification in special circumstances. The preferable method, in the view of the committee, is to adjust the investment through income currently to take up the share of the controlling company or companies in the subsidiaries' net income or net loss [a sanction of the equity method for consolidated statement presentation, but not for the parent's unconsolidated statements], except where the subsidiary was excluded because of exchange restrictions or other reasons which raise the question of whether the increase in equity has accrued to the credit of the group. . . . The other method, more commonly used at present, is to carry the investment at cost, and to take up income as dividends are received; however, provision should be made for any material impairment of the investment, such as through losses sustained by the subsidiaries, unless it is deemed to be temporary. When the latter method is followed, the consolidated statements should disclose, by footnote or otherwise, the cost of the investment in the unconsolidated subsidiaries, the equity of the consolidated group of companies in their net assets, the dividends received from them in the current period, and the equity of the consolidated group in their earnings for the period; this information may be given in total or by individual subsidiaries or groups of subsidiaries.

"Whichever method of dealing with unconsolidated subsidiaries is followed, if there is a difference between the cost of the investment and the equity in net assets at the date of acquisition, appropriate recognition should be given to the possibility that, had the subsidiaries been consolidated, part of such difference would have been reflected in adjusted depreciation or amortization. Also, appropriate recognition should be given to the necessity for an adjustment for intercompany gains or losses on transactions with unconsolidated subsidiaries. If sales are made to unconsolidated subsidiaries and the investment in the subsidiaries is carried at cost plus the equity in undistributed earnings [first method mentioned above], an elimination of unrealized intercompany gains and losses should be made to the same extent as if the subsidiaries were consolidated. The same applies where intercompany sales are made by the unconsolidated subsidiaries. If, however, the investment is carried at cost, it is not necessary to eliminate the intercompany gain on sales to such subsidiaries, if

the gain on the sales does not exceed the unrecorded equity in undistributed earnings of the unconsolidated subsidiaries. If such gain is material, it should be appropriately disclosed. Where the sales are made by the unconsolidated subsidiaries to companies included in the consolidated group, the intercompany gains or losses should be eliminated in arriving at the amount of the equity in the undistributed earnings of the unconsolidated subsidiaries which will be disclosed in a footnote or otherwise."

Investments in subsidiaries in parent's statements. Although, as indicated in the preceding quotation, the Committee on Accounting Procedure sanctioned the showing, in consolidated statements, of investments in unconsolidated subsidiaries at amounts which would appear on the parent's books by use of the equity method of accounting, it should not be assumed that a similar sanction applies to the parent's unconsolidated statements. It is generally recognized that, in the parent's unconsolidated statements, investments in and earnings of all subsidiaries should be reflected on the cost basis, with supplementary information of the nature described in the cost-basis comments in the first paragraph of the preceding quotation.

Combined statements. When the criteria for determining the propriety of consolidating statements, such as the requirement that controlling financial interests should be held by one of the companies in the group, are not met, combined statements may sometimes be useful. As the name suggests, totals of similar items in the statements of individual companies, with some adjustments but without elimination of stock investments, are shown in combined statements.

Combined statements might be used when one individual owns controlling interests in several businesses whose operations are related, or when a group of such companies is under common management, or when the object is to present information about a group of unconsolidated subsidiaries.

In the preparation of combined statements, intercompany relationships such as receivables and payables, and intercompany transactions and gains and losses, should be eliminated in the same manner as in consolidated statements. The amount of any minority interest should be disclosed.

Limitations of usefulness of consolidated statements. A recent survey of the published reports of 329 parent companies, conducted by the American Institute of Certified Public Accountants, disclosed that only five submitted parent company statements. Some of the five have since discontinued the practice. The

increasing prevalence of the publication, in parent company reports to stockholders, of consolidated statements only indicates that the latter are coming to be regarded as primary statements. It is important, however, to be cognizant of their limitations.

Consolidated statements were devised for the purpose of giving an interested person an over-all view of the financial position and operating results of a group of affiliated companies without requiring him to examine the statements of all of the related companies and to attempt to piece them together into a composite picture. For this purpose, consolidated statements have a real usefulness; but they do not serve all of the purposes for which individual company statements may be used or required.

Minority stockholders and creditors of subsidiary companies can obtain very little information of value to them from consolidated statements, for such statements do not detail the assets, liabilities, revenues, and expenses of the subsidiaries. Moreover, they should be interested in information relative to the volume of business conducted with the parent company and other affiliates; the continuance or discontinuance of such business is under the control of the parent company, and decisions with respect thereto may be made from the standpoint of the parent company and to the detriment of the subsidiary. But the foregoing comments cannot be regarded as a cogent criticism of consolidated statements; consolidated statements do not purport to be a substitute for subsidiary statements as a source of information to minority stockholders and creditors of the subsidiary.

There also are limitations to the usefulness of consolidated statements as a source of information to the parent company's stockholders and creditors. The creditors of each company are primarily concerned with the financial position and earnings of the specific debtor company. It is obvious that creditors of a subsidiary cannot obtain from consolidated statements the information they require relative to the subsidiary. It is perhaps less obvious, but it is equally true, that the creditors of the parent company are not adequately informed by such statements. The pool of assets shown by a consolidated balance sheet is not available ratably for the payment of the liabilities of all of the affiliated companies included in the consolidated balance sheet.

It is often difficult to show, in a consolidated balance sheet, the liens which affect the rights of creditors. Assume, for example, that the parent company has pledged the stock of a subsidiary as security to a parent-company debt. As a consequence, the net assets of the subsidiary do not constitute the same potential debt-paying resource for all creditors of the parent company. This

condition is not reflected by a consolidated balance sheet in which all parent and subsidiary assets are merged in a pool which purports to be available ratably for the payment of all parent and subsidiary liabilities. The pledge of the subsidiary stock may be stated in a footnote, but this does not suffice because the consolidated balance sheet does not identify the subsidiary's assets affected by the pledge nor the subsidiary liabilities which rank ahead of the parent company's liabilities to creditors holding the pledged stock.

Since a consolidated statement is a composite, a weak current position of one company may be bolstered by a strong current position in another company; for this and other reasons, the consolidated balance sheet cannot be regarded as reflecting the current position of the parent company.

If assets of foreign subsidiaries represent a considerable portion of the consolidated total, very misleading conclusions may be reached if the consolidated balance sheet includes foreign cash subject to widely fluctuating exchange rates or to exchange restrictions, or if it includes foreign receivables subject to extraordinary collection hazards, or if it includes merchandise manufactured and/or labeled specifically for foreign sales.

It is customary to show as finished goods inventory in the consolidated statements the total finished goods inventories of all companies, and to combine the other inventories in a similar manner. However, if intercompany sales are made and finished goods of one company become raw materials of another company, such an inventory classification procedure may be misleading. If such intercompany transfers are of inconsequential amount, the customary procedure results in only a negligible distortion; but if substantial inventories properly classified as finished goods from the individual company standpoint are in reality raw materials or goods in process from the consolidated standpoint, the consolidated balance sheet will give a false impression of the liquidity of the inventories.

Bond indentures frequently require the maintaining of specified minimum ratios of current assets to current liabilities and provide penalties for nonconformance. A consolidated balance sheet does not give the bondholders of individual companies information from which they can determine whether the requirements are being fulfilled, nor can it show the stockholders whether their company is in any jeopardy because of a default.

The bondholders and preferred stockholders are interested in the relation of separate company earnings to interest and preferred dividend requirements, and the common stockholders are interested in the remaining earnings on common shares. Con-

solidated statements do not provide this information. Moreover, because of the customary procedure of combining the bond interest and the preferred dividends of all companies, the statements do not show, with respect to any company, the number of times that its bond interest or preferred dividend is earned. Also, the custom of deducting all bond interest before any preferred or common dividends tends to create the false impression that all bond interest ranks ahead of any dividends; actually, the bond interest and preferred and common dividends of subsidiaries must be paid before any subsidiary earnings become available for the payment of parent-company bond interest.

It is, of course, obvious that a consolidated income statement does not show the operating results of individual companies. Such information may be extremely important, not only from the standpoint of minority stockholders of subsidiaries but from the standpoint of the parent company as well. A family of companies may be able to carry a weak sister, but the strength of the organization is enhanced if each affiliate carries itself. A weak subsidiary may be a real source of danger. Assume, for instance, that an essential subsidiary is operating at a loss—a fact which is not disclosed because the group as a whole operates at a profit; control of the subsidiary has been exercised through ownership of the common stock, since the preferred stock has no vote as long as dividends are paid. Here, obviously, is a situation in which control of an essential subsidiary may be lost to outside preferred stockholders, and the integrated operations of the entire affiliated group are therefore in jeopardy.

Ratio analyses based on consolidated data are not reliable. In the first place, such ratios are composites, and the good and bad features of individual companies are not disclosed by them. For instance, assume the following facts regarding sales and a certain expense:

	Sales	Expense	Per Cent
Company *A*	$ 300,000	$33,000	11.0%
Company *B*	700,000	42,000	6.0
Total	$1,000,000	$75,000	7.5

Let us further assume that 7.5% is a satisfactory ratio and that 11% is unsatisfactory; a bad feature of Company *A* is not disclosed.

In the second place, the ratios are affected by intercompany eliminations. Assume that in the above situation there are intercompany sales of $250,000; the sales shown in the consolidated income statement are therefore $750,000, and the expense ratio is stated as 10%. If an expense should bear a certain relation to sales,

the per cent should be computed by using the total sales as well as the total expenses; since intercompany sales are eliminated from the base, the per cent is distorted.

On the other hand, it should be recognized that statements of the parent company alone are not wholly satisfactory. A parent-company balance sheet in which the assets consist principally of investments in subsidiaries can hardly be regarded as an adequate indication of the parent company's financial position unless it is supplemented by information about the assets and liabilities underlying the investments. And a parent company's income statement in which subsidiary dividends are taken as earnings reflects income only from the legal, and not from the economic, standpoint. Although the dividends received from the subsidiary are legal income to the parent company, the income statement showing such dividends as income should also show, by footnotes or other memoranda, the net income earned or the loss incurred by the subsidiary during the period.

File of consolidating information. The preparation of a consolidated statement frequently requires a knowledge of certain events which occurred in prior periods and other data not required for individual company statements. For instance, if the investments are carried at cost, it is essential to retain in available form complete information relative to the book value of the subsidiary stocks at the dates of acquisition. This, of course, is especially important if the subsidiary stock was acquired by purchases at several dates. If fixed assets are transferred from one affiliated company to another at a profit, it is important to have information about the amount of the intercompany gain and the estimated useful life of the asset after the intercompany sale, so that proper elimination of intercompany profit and proper adjustment of depreciation or amortization charges can be made as long as the asset remains in the accounts.

For these, and often other, reasons, it is advisable to maintain a file of historical information that will be useful in the preparation of consolidated statements for successive periods.

Subsidiaries acquired in a pooling of interests. In the presentation of parent and subsidiary accounting in the preceding pages of the text, it has always been assumed that the parent company either organized the subsidiary company or purchased the stock of an established company from stockholders. As a general rule, it was also assumed that the stock was paid for by cash or other assets, in contrast to a situation in which the stock is acquired by issuing stock of the parent company in exchange. Where there is an exchange of stock, there is the possibility that

the acquisition of a subsidiary may be construed as a pooling of interests rather than as a purchase.

In Chapter 27 of the *Intermediate* volume, a pooling of interests was explained and differentiated from a purchase. It was pointed out that the distinction between a pooling and a purchase was of fairly recent origin. The following conditions, or some combination of them, were suggested as being relevant for purposes of classifying an acquisition as a pooling of interests rather than as a purchase:

Continuity of ownership interests.
Continuity of voting rights and consequent control over management.
Continuity of management.
Businesses being combined are engaged in activities that are either similar or complementary.
Businesses being combined are of about the same relative size.

When an acquisition has been classified as a pooling of interests, the investment account is debited for the stated value of the stock issued by the parent company in exchange for the shares of the subsidiary. Furthermore, the account balances of the now combined or related companies can be merged without adjustment, provided that the account balances are stated in conformity with generally accepted accounting principles. The right to merge account balances includes the right to combine the retained earnings of the companies. As a result, if the acquired company is held as a subsidiary and not liquidated, consolidated retained earnings at the date of acquisition may exceed the retained earnings of the parent company alone. This result is contrary to the rule applicable in the case of a subsidiary acquired by purchase, which holds that no portion of the at-acquisition retained earnings of the subsidiary may be included in consolidated retained earnings.

With the combining of retained earnings being permitted for purposes of consolidated statements if a pooling of interests has occurred, it should be recognized that initially the consolidated retained earnings may be less, but never more, than the sum of the retained earnings of the parent and subsidiary corporations. The consolidated retained earnings will be less if the stated capital resulting from the issuance of shares by the parent company exceeds the paid-in capital associated with the shares of the subsidiary received in exchange. As an illustration, consider the following example. Assume that Company S has the following stockholders' equity:

Capital stock	$60,000	
Retained earnings	20,000	$80,000

Assume further that Company *P* acquires all of the outstanding shares of Company *S* by issuing in exchange shares of Company *P* having a stated value of $70,000. Company *P*'s entry is:

Investment in stock of Company *S*	70,000	
Capital stock		70,000

Of Company *S*'s retained earnings, $10,000 has in effect been capitalized, from a consolidated standpoint, and only the remaining $10,000 will become a part of consolidated retained earnings. This is illustrated in the consolidated balance sheet working papers on page 473.

If the stated value of the stock issued by the parent company in exchange for the stock of the subsidiary is less than the paid-in capital associated with the shares of the subsidiary, the difference may be shown as paid-in surplus in the consolidated balance sheet. To illustrate, assume that the stockholders' equity of Company *S* in the preceding illustration had been as follows:

Capital stock	$50,000	
Paid-in surplus	10,000	
Retained earnings	20,000	$80,000

Then assume that Company *P* had issued stock with a stated value of $45,000 for all of the stock of Company *S*. The elimination of the investment in the subsidiary and the subsidiary's capital stock would be achieved by the following working paper entry in the Adjustments and Eliminations columns.

Capital stock—Company *S*	50,000	
Investment in stock of Company *S*		45,000
Paid-in surplus		5,000

The Stockholders' Equity section of the consolidated balance sheet at acquisition would be as follows:

Stockholders' equity:	
Capital stock	Amount shown by the Capital Stock account on the books of Company *P*
Paid-in surplus	$15,000
Retained earnings	60,000

No attempt should be made to make use of market value data in recording the exchange of stock; this would not be consistent with a pooling of interests. Also, in a pooling situation, there would be no excess of cost over book value, or vice versa; such an excess arises only if the subsidiary is purchased.

Subsidiaries which were acquired through a pooling of interests are not commonly found in practice at the present time. However, there is evidence which suggests that such arrangements are being concluded in increasing numbers.

COMPANY P AND SUBSIDIARY
Consolidated Balance Sheet Working Papers
At Acquisition

	Company *P*	Company *S*	Adjustments and Eliminations (Dr.)	Adjustments and Eliminations (Cr.)	Retained Earnings	Consolidated
Assets						
Cash	15,000	10,000				25,000
Inventory	25,000	15,000				40,000
Investment in stock of Company *S* (100%)	70,000			70,000 A		
Equipment	100,000	80,000				180,000
Less accumulated depreciation	40,000*	20,000*				60,000*
	170,000	85,000				185,000
Liabilities and Stockholders' Equity						
Accounts payable	5,000	5,000				10,000
Capital stock:						
Company *P*	125,000					125,000
Company *S*		60,000	60,000 A			
Retained earnings:						
Company *P*	40,000				40,000	
Company *S*		20,000	10,000 A		10,000	
	170,000	85,000	70,000	70,000		
Consolidated retained earnings					50,000	50,000
						185,000

* Deduction.

Adjustments and Eliminations

A—Elimination of investment account and an equal amount of stockholders' equity of subsidiary acquired in a pooling of interests.

The Entity Theory

The entity theory of consolidated statements. The conventional procedures for the preparation of consolidated statements are based on the concept that they are essentially parent-company statements—that the subsidiaries partake of the nature of branches. This concept is evidenced by the fact that the stockholders' equity shown in the consolidated balance sheet does not normally include the minority interests; the consolidated stockholders' equity is the amount of the parent's stockholders' equity adjusted by the parent's share of the increase or decrease in the subsidiaries' retained earnings since acquisition.

In 1944, the American Accounting Association published a monograph, *The Entity Theory of Consolidated Statements*, by Maurice Moonitz, Ph. D., which advocates the preparation of consolidated statements in a manner based on a different concept of the nature of such statements. In this monograph Doctor Moonitz maintains, in effect, that consolidated statements are not essentially parent-company statements; that they are statements of a business entity with two classes of proprietary interests—the majority or dominant interest and the minority interest or interests; and that, in the preparation of consolidated statements, these interests should be treated consistently. Some of the procedures advocated by Doctor Moonitz are discussed in the following paragraphs.

Minority stockholders' equity. Since, under the entity theory, both the majority and minority stockholders have proprietary interests in the business entity, a consistent treatment requires that both the minority and the majority interests be shown in the Stockholders' Equity section of the consolidated balance sheet, thus:

Stockholders' equity:		
Minority interest:		
Capital stock	$ 10,000	
Retained earnings	3,000	$ 13,000
Majority interest:		
Capital stock	$100,000	
Retained earnings	60,000	160,000
		$173,000

Intercompany profits in inventories and fixed assets. At the time of the publication of the monograph, there was a difference of opinion among accountants as to whether eliminations from inventories and fixed assets of intercompany profits made by less than 100%-owned subsidiaries on sales to affiliated companies should be computed by multiplying the intercompany profit by 100% or by the per cent of the parent's interest in the selling

subsidiary. In conformity with the basic entity theory concept that majority and minority interests should be treated consistently, the monograph advocates that 100% of such intercompany profits should be eliminated, regardless of the per cent of minority interest in the selling subsidiary, and that the majority and minority interests in the net income of the selling subsidiary should be affected ratably.

The American Accounting Association and the American Institute of Certified Public Accountants are now on record as favoring the 100% elimination. Therefore, the 100% elimination is no longer a characteristic peculiar to entity-theory statements.

Consolidated goodwill or adjustment of asset values. Assume that on January 1, 1961, Company *P* acquires, for $148,500, a 90% interest in a subsidiary with a stockholders' equity of $150,000. Since 90% of $150,000 is $135,000, the payment in excess of book value was $13,500. If the excess payment is regarded as indicative of the existence of goodwill, the generally accepted procedure is to establish the amount thereof at $13,500. Under the entity theory, the argument runs as follows: The parent company purchased a 90% interest in the net assets of the subsidiary, including 90% of its goodwill; therefore, the total goodwill of the subsidiary is $13,500 ÷ .90, or $15,000, and that amount should go into the consolidated working papers, with a $1,500 addition to the minority interest. Otherwise, the majority and minority interests in the business entity will not be consistently determined.

Similarly, if the excess payment by the parent is regarded as indicative of an undervaluation of one or more subsidiary assets, the adjustment of the asset valuations for consolidated statement purposes should be $15,000, with a $1,500 addition to the minority interest. If the asset is subject to depreciation or amortization, the provisions should be based on a valuation including the $15,000; the majority and minority interests in the net income of the subsidiary would be affected proportionately.

Entity-theory working papers will differ from conventional-basis working papers in only one particular: the treatment of matters related to the difference between the cost of the parent's investment in the subsidiary's stock and the book value thereof at the date of acquisition.

Referring to the preceding illustration, assume that the $15,000 is to be shown in the consolidated balance sheet as goodwill. The following entry is made in the Adjustments and Eliminations columns of the partial working papers on page 476:

Goodwill	15,000	
Investment account—Excess of cost over book value		13,500
Minority interest		1,500

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1961

	Company *P*	Company *S*	Adjustments and Eliminations		Minority Interest	Consolidated
BALANCE SHEET:						
Assets:						
Investment in stock of Company *S* (90%)—at cost:						
Book value at acquisition	135,000			135,000 A		
Excess of cost over book value—Allocated to Goodwill	13,500			13,500 B		
Related adjustment of Minority				1,500 B	1,500	
Goodwill			15,000 B			15,000

Now assume that the \$15,000 excess of cost over book value in the present illustration is regarded as indicative of an undervaluation of equipment. The stock acquisition date is assumed to be January 1, 1961; on this date the equipment, which cost the subsidiary \$60,000, is 50% depreciated with three years of useful life remaining. The annual depreciation charge in the subsidiary's books is therefore \$10,000. A \$5,000 depreciation adjustment will be required in the consolidated working papers for the next three years, 1961 through 1963. Partial consolidated working papers for 1961 and 1962 are shown on pages 477 and 478.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1961

	Company *P*	Company *S*	Adjustments and Eliminations		Minority Interest	Consolidated
INCOME STATEMENT:						
Net income before depreciation on equipment		25,000				
Depreciation expense—Equipment		10,000	5,000 C			
Minority interest—10% of (\$15,000 − \$5,000)					1,000	
Net income		15,000				
STATEMENT OF RETAINED EARNINGS:						
Retained earnings—December 31, 1960:						
Company *S*		50,000	45,000 A		5,000	
BALANCE SHEET:						
Assets:						
Investment in stock of Company *S* (90%)—at cost:						
Book value at acquisition	135,000			135,000 A		
Excess of cost over book value—Allocated to equipment	13,500			13,500 B		
Related adjustment of Minority				1,500 B	1,500	
Equipment		60,000	30,000 B			90,000
Less accumulated depreciation		40,000*		{15,000 B 5,000 C		60,000*
Liabilities and stockholders' equity:						
Capital stock:						
Company *S*		100,000	90,000 A		10,000	

* Deduction.

Adjustments and Eliminations

A—Book value of subsidiary stock at acquisition.
B—Acquisition adjustment.
C—Adjustment of 1961 depreciation charge.

COMPANY P AND SUBSIDIARY
Partial Consolidated Working Papers
For the Year Ended December 31, 1962

	Company *P*	Company *S*	Adjustments and Eliminations		Minority Interest	Consolidated
INCOME STATEMENT:						
Net income before depreciation on equipment		25,000				
Depreciation expense—Equipment		10,000	5,000 C			
Minority interest—10% of ($15,000 − $5,000)					1,000	
Net income		15,000				
STATEMENT OF RETAINED EARNINGS:						
Retained earnings—December 31, 1961:						
Company *S*:						
At acquisition		50,000	45,000 A		5,000	
Increase since		15,000	5,000 C		1,000	9,000
BALANCE SHEET:						
Assets:						
Investment in stock of Company *S* (90%)—at cost.						
Book value at acquisition	135,000			135,000 A		
Excess of cost over book value—Allocated to equipment	13,500			13,500 B		
Related adjustment of Minority				1,500 B	1,500	
Equipment		60,000	30,000 B			90,000
Less accumulated depreciation		50,000*		15,000 B 10,000 C		75,000*
Liabilities and stockholders' equity:						
Capital stock:						
Company *S*		100,000	90,000 A		10,000	

* Deduction.

Adjustments and Eliminations

A—Book value of subsidiary stock at acquisition.
B—Acquisition adjustment.
C—Adjustment of depreciation charge—1961 and 1962.

CHAPTER TWENTY-SIX

Parent and Subsidiary Accounting (Concluded)

Reciprocal Affiliations

A reciprocal affiliation exists when two companies hold stock in each other.

Reciprocal affiliation—Father and son. A reciprocal affiliation between a father and a son is illustrated by the following chart:

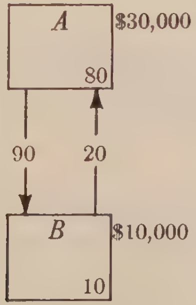

Chart 1.

Eighty per cent of the parent's stock is held by outsiders; twenty per cent is held by the subsidiary. The parent owns ninety per cent of the stock of the subsidiary.

When there is no reciprocal affiliation, which has been the case up to this point in the book, the subsidiary's minority interest in

the net income was computed by multiplying the subsidiary's net income (adjusted for inventory and fixed asset intercompany profits made on sales by the subsidiary) by the minority's percentage interest in the subsidiary. But when there is a reciprocal affiliation, this simple procedure cannot be followed, because the subsidiary's net income for purposes of consolidated statements includes not only the net income from the subsidiary's own operations but also the subsidiary's portion of the net income of the parent applicable to the parent's stock owned by the subsidiary. A less simple apportionment procedure is required. Three methods are described.

Apportionment by algebra—No intercompany profits. The apportionment of the $40,000 net income shown in Chart 1 between consolidated net income and the minority interest in the subsidiary may be determined algebraically by the procedure shown below.

Let A = the net income of Company A on a consolidated basis.
Let B = the net income of Company B on a consolidated basis.

$$\begin{aligned}
\text{Then } A &= \$30{,}000 + .9B \\
B &= \$10{,}000 + .2A \\
A &= \$30{,}000 + .9B \\
&= \$30{,}000 + .9(\$10{,}000 + .2A) \\
&= \$30{,}000 + \$9{,}000 + .18A \\
.82A &= \$39{,}000 \\
A &= \$47{,}560.98 \text{ The net income of Company } A \text{ on a consolidated basis.} \\
B &= \$10{,}000 + .2A \\
&= \$10{,}000 + (.2 \times \$47{,}560.98) \\
&= \$10{,}000 + \$9{,}512.20 \\
&= \$19{,}512.20 \text{ The net income of Company } B \text{ on a consolidated basis.}
\end{aligned}$$

Apportionment of Net Income

Consolidated net income:	
80% of $47,560.98	$38,048.78
Minority interest in Company B:	
10% of $19,512.20	1,951.22
Total	$40,000.00

Apportionment by algebra—Intercompany profits. Again using the facts in Chart 1, assume that Company B's inventories contained intercompany profits, made on sales by Company A, in the amounts shown on the following page.

In inventory at beginning of year	\$ 500.00
In inventory at end of year	1,500.00

Then Company A's net income exclusive of its share of the net income of Company B is

$$\$30{,}000 + \$500 - \$1{,}500 = \$29{,}000$$

and the algebraic computation is:

Let A = the net income of Company A on a consolidated basis.
Let B = the net income of Company B on a consolidated basis.

$$\begin{aligned}
\text{Then } A &= \$29{,}000 + .9B \\
B &= \$10{,}000 + .2A \\
A &= \$29{,}000 + .9B \\
&= \$29{,}000 + .9(\$10{,}000 + .2A) \\
&= \$29{,}000 + \$9{,}000 + .18A \\
.82A &= \$38{,}000 \\
A &= \$46{,}341.46 \\
B &= \$10{,}000 + .2A \\
&= \$10{,}000 + (.2 \times \$46{,}341.46) \\
&= \$10{,}000 + \$9{,}268.29 \\
&= \$19{,}268.29
\end{aligned}$$

Apportionment of Net Income

Consolidated net income:	
80% of \$46,341.46	\$37,073.17
Minority interest in Company B:	
10% of \$19,268.29	1,926.83
Total	\$39,000.00

Successive approximations method. This method is useful if one does not have a command of algebra, or in cases where the intricacies of intercompany affiliations make algebraic computations extremely difficult.

The table of successive approximations for Chart 1 is shown on page 482. Usually, approximations may be rounded off to dollars until the difference between two successive approximations for the same company is two dollars or less; amounts should then be carried to cents. The table is completed when two successive approximations for each company produce (or would produce, if made) the same result.

It is here assumed that there were no intercompany profits in inventories. If there were intercompany profits in the same amounts as in the second algebraic computation above, Company A's net income would be shown as \$29,000.

Table of Successive Approximations

	First	Second	Third	Fourth	Fifth	Sixth
Company A:						
Own net income	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
90% of Company B	9,000	16,020	17,284	17,511	17,552	17,559
Total	\$39,000	\$46,020	\$47,284	\$47,511	\$47,552	\$47,559
Company B:						
Own net income	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000.00
20% of Company A	7,800	9,204	9,457	9,502	9,510	9,511.80
Total	\$17,800	\$19,204	\$19,457	\$19,502	\$19,510	\$19,511.80

	Seventh	Eighth	Ninth	Tenth
Company A:				
Own net income	\$30,000.00	\$30,000.00	\$30,000.00	\$30,000.00
90% of Company B	17,560.62	17,560.91	17,560.96	17,560.97
Total	\$47,560.62	\$47,560.91	\$47,560.96	\$47,560.97
Company B:				
Own net income	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
20% of Company A	9,512.12	9,512.18	9,512.19	9,512.19
Total	\$19,512.12	\$19,512.18	\$19,512.19	\$19,512.19

The successive approximations were made as follows:

First approximation: A's 90% of net income of B: 90% of \$10,000 = \$ 9,000
B's 20% of net income of A: 20% of \$39,000 = \$ 7,800
Second approximation: A's 90% of net income of B: 90% of \$17,800 = \$16,020
B's 20% of net income of A: 20% of \$46,020 = \$ 9,204
And so on.

The apportionment of the net income can then be made as shown in the algebraic solution:

Consolidated net income:	
80% of \$47,560.97	\$38,048.78
Minority interest in Company B:	
10% of \$19,512.19	1,951.22
Total	\$40,000.00

Formula method. A procedure using formulas for the computation of per cents that can be used for the apportionment of net income is illustrated below.

Formula for Apportionment of Net Income of Company A

Let PAC represent the per cent of Company A's net income to be included in consolidated net income.

$$\text{Then } PAC = \frac{\text{Per cent of Company } A \text{ stock held by outsiders}}{\text{Interdependency factor}}$$

The interdependency factor is 100% minus the product of the per cents of reciprocal stockholdings. For the Chart 1 situation, it is computed as shown on page 483.

$$\begin{aligned}\text{Interdependency factor} &= 100\% - (90\% \text{ of } 20\%)\\ &= 100\% - 18\%\\ &= 82\%\end{aligned}$$

$PAC = \dfrac{80\%}{.82} = 97.56097\%$ The per cent of Company A's net income to be included in consolidated net income.

Then Company B's minority interest in the net income of Company A is:

$$100\% - 97.56097\%, \text{ or } 2.43903\%$$

See the tabulation below for the application of these per cents in the apportionment of the net income of Company A.

Formula for Apportionment of Net Income of Company B

Let PBC represent the per cent of Company B's net income to be included in consolidated net income.

$$\text{Then } PBC = \frac{\begin{array}{c}\text{Per cent of outside-owned}\\ \text{stock of parent}\end{array} \times \begin{array}{c}\text{Per cent of parent's control-}\\ \text{ling interest in subsidiary}\end{array}}{\text{Interdependency factor}}$$

$$= \frac{80\% \times 90\%}{.82} = 87.80487\%$$

Then Company B's minority interest in the net income of Company B is:

$$100\% - 87.80487\%, \text{ or } 12.19513\%$$

Application of the Apportionment Per Cents

The apportionment per cents determined by the above formulas are applied to the net income amounts of the two companies per books as follows:

Apportionment of Net Income

		Apportionment			
		Consolidated Net Income		Minority Interest—Co. B	
Company	Net Income	Per Cent	Amount	Per Cent	Amount
A.......	$30,000	97.56097%	$29,268.29	2.43903%	$ 731.71
B.......	10,000	87.80487	8,780.49	12.19513	1,219.51
	$40,000		$38,048.78		$1,951.22

Observe that the income apportionment agrees with that determined by algebra on page 480 and by successive approximations on page 482.

The consolidated working papers will not show the computation of the minority interest as has previously been done, but may refer to the computation made by algebra, successive approximations, or formulas, as shown below:

Partial Consolidated Working Papers

	Statements		Minority	
	Company *A*	Company *B*	Interest	Consolidated
INCOME STATEMENT:				
Minority interest (see computation)......			1,951.22	38,048.78
Net income..........	30,000	10,000	1,951.22	38,048.78

Apportionment per cents are equally applicable to a situation in which there are intercompany profits in inventories. Refer to page 481 and note that the net income of Company *A* after adjustment for intercompany profits in inventories was $29,000. The apportionment per cents are applied as follows:

Apportionment of Net Income

		Apportionment			
		Consolidated Net Income		Minority Interest—Co. *B*	
Company	Net Income	Per Cent	Amount	Per Cent	Amount
A.......	$29,000	97.56097%	$28,292.68	2.43903%	$ 707.32
B.......	10,000	87.80487	8,780.49	12.19513	1,219.51
	$39,000		$37,073.17		$1,926.83

Observe that the income apportionment is the same as that obtained by algebra on page 481.

Reciprocal affiliation—Son and grandson. Chart 2 illustrates a reciprocal affiliation between two subsidiaries—Companies *B* and *C*.

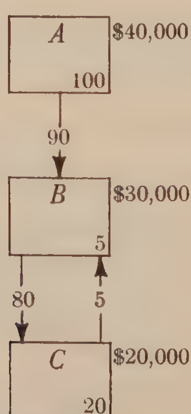

Chart 2.

When a reciprocal affiliation exists between two subsidiaries, the determination of the consolidated net income and the minority interests in net income involves two steps:

Step 1—Computation of the net income of each *reciprocally affiliated company* on a consolidated basis.
Step 2—Apportionment of the consolidated-basis net incomes.

Apportionment by algebra—No intercompany profits. The following illustration of these procedures is based on the Chart 2 data.

First step. Following is the algebraic computation of the consolidated-basis net income of Company B and of Company C.

Let B = the net income of Company B on a consolidated basis.
Let C = the net income of Company C on a consolidated basis.

$$B = \$30{,}000 + .8C$$
$$C = \$20{,}000 + .05B$$

$$\begin{aligned} B &= \$30{,}000 + .8(\$20{,}000 + .05B) \\ &= \$30{,}000 + \$16{,}000 + .04B \\ .96B &= \$46{,}000 \\ B &= \$47{,}916.67 \end{aligned}$$

$$\begin{aligned} C &= \$20{,}000 + .05B \\ &= \$20{,}000 + (.05 \times \$47{,}916.67) \\ &= \$20{,}000 + \$2{,}395.83 \\ &= \$22{,}395.83 \end{aligned}$$

Second step. Having computed the consolidated-basis net income of each of the reciprocally affiliated companies, the income apportionment can be made as follows:

Apportionment of Net Income

Consolidated net income:		
Company A's net income....................	$40,000.00	
From Company B—90% of $47,916.67........	43,125.00	$83,125.00
Minority interest in Company B:		
5% of $47,916.67....................................		2,395.83
Minority interest in Company C:		
20% of $22,395.83....................................		4,479.17
Total..		$90,000.00

Apportionment by algebra—Intercompany profits. If any of the affiliated companies has made an intercompany profit on sales of goods that remain in another company's inventory, the algebraic procedure is the same as that illustrated above, but the net income of the selling affiliate is adjusted for any intercompany profits in the beginning and ending inventories, in the manner described on page 481.

Successive approximation method—No intercompany profit. The table of successive approximations for Chart 2 is shown below:

Company *B*:						
Own net income.	$30,000	$30,000	$30,000	$30,000.00	$30,000.00	$30,000.00
80% of net income of Company *C*.......	16,000	17,840	17,914	17,917.00	17,916.68	17,916.67
Total.......	$46,000	$47,840	$47,914	$47,917.00	$47,916.68	$47,916.67
Company *C*:						
Own net income.	$20,000	$20,000	$20,000	$20,000.00	$20,000.00	$20,000.00
5% of net income of Company *B*.......	2,300	2,392	2,396	2,395.85	2,395.83	2,395.83
Total.......	$22,300	$22,392	$22,396	$22,395.85	$22,395.83	$22,395.83

The income apportionment is the same as by the algebraic method. (See page 485.)

Formula method. The formula method is applied to the data in Chart 2 as follows:

Net Income of Company A

When the parent is not one of the reciprocally affiliated companies, 100% of its net income is included in consolidated net income.

Formula for Apportionment of Net Income of Company B

Let *PBC* represent the per cent of Company *B*'s net income to be included in consolidated net income.

$$\text{Then } PBC = \frac{\text{Control per cent in the line leading from Company } A \text{ to Company } B}{\text{Interdependency factor}}$$

The interdependency factor is 100% minus the product of the per cents of reciprocal stockholdings. For the case illustrated in Chart 2, it is computed as follows:

$$\begin{aligned}\text{Interdependency factor} &= 100\% - (80\% \times 5\%) \\ &= 100\% - 4\% \\ &= \ 96\%\end{aligned}$$

$$\text{Then } PBC = \frac{90\%}{.96} = 93.75\%$$

Let *PBb* represent the per cent of Company *B*'s net income applicable to the minority interest in Company *B*.

$$\text{Then } PBb = \frac{\text{Per cent of minority interest in Company } B}{\text{Interdependency factor}}$$

$$= \frac{5\%}{.96} = 5.208333\%$$

Let PBc represent the per cent of Company B's net income applicable to the minority interest in Company C.

$$\text{Then } PBc = \frac{\text{Per cent of minority interest in Company } C \times \text{Control per cent in the line leading from Company } C \text{ to Company } B}{\text{Interdependency factor}}$$

$$= \frac{20\% \times 5\%}{.96} = 1.041666\%$$

Formula for Apportionment of Net Income of Company C

Let PCC represent the per cent of Company C's net income to be included in consolidated net income.

$$\text{Then } PCC = \frac{\text{Product of control per cents in the lines leading from Company } A \text{ to Company } C}{\text{Interdependency factor}}$$

$$PCC = \frac{90\% \times 80\%}{.96}$$

$$= \frac{72\%}{.96} = 75\%$$

Let PCc represent the per cent of Company C's net income applicable to the minority interest in Company C.

$$\text{Then } PCc = \frac{\text{Per cent of minority interest in Company } C}{\text{Interdependency factor}}$$

$$= \frac{20\%}{.96} = 20.833333\%$$

Let PCb represent the per cent of Company C's net income applicable to the minority interest in Company B.

$$\text{Then } PCb = \frac{\text{Per cent of minority interest in Company } B \times \text{Control per cent in the line leading from Company } B \text{ to Company } C}{\text{Interdependency factor}}$$

$$= \frac{5\% \times 80\%}{.96} = 4.166666\%$$

Application of the Apportionment Per Cents

The apportionment per cents determined by the above formulas are applied to the net income amounts of the three companies as follows:

Apportionment of Net Income

		Consolidated Net Income		Minority Interest—Company *B*		Minority Interest—Company *C*	
Company	Net Income	Per Cent	Amount	Per Cent	Amount	Per Cent	Amount
A	$40,000	100.00%	$40,000				
B	30,000	93.75	28,125	5.208333%	$1,562.50	1.041666%	$ 312.50
C	20,000	75.00	15,000	4.166666	833.33	20.833333	4,166.67
	$90,000		$83,125		$2,395.83		$4,479.17

Consolidated Working Papers—Reciprocal Affiliations

The general form of working papers is not affected by the existence of a reciprocal in the affiliation structure. The reciprocal affiliation does require new procedures for the apportionment, between consolidated and minority interests, of:

The net income for the year;
The change in subsidiary retained earnings between the date of acquisition and the beginning of the statement year.

The new procedures are illustrated later.

Basis of illustration. The following illustration is based on Chart 2.

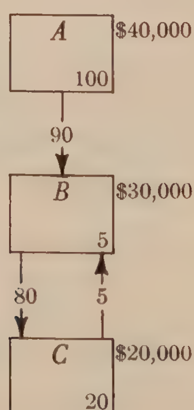

Chart 2.

It is assumed that:

All stock acquisitions were made by the three companies on the same date, December 31, 1960.

The retained earnings of the two subsidiaries on that date were:

Company *B*	$60,000
Company *C*	40,000

All of the stock acquisitions were made at book value.

Consolidated statements are to be prepared for the year ended December 31, 1962.

The increases in the retained earnings of the subsidiaries between the date of acquisition and December 31, 1961, were:

Company *B*	$30,000
Company *C*	20,000

There were intercompany sales during 1961 and 1962, and there were intercompany profits in the inventories at the end of each year; the amounts are stated later.

Each company uses the cost method of accounting for its investment in an affiliate.

The working papers are on pages 492, 493, and 494. The adjustments and eliminations are stated below. Because of space limitations on the printed page, adjustments and eliminations running into cents are rounded off to dollars in the working papers.

Adjustments and Eliminations

A—Intercompany sales—$25,000.

B—Intercompany profits in inventories, December 31, 1961—$4,500, as detailed below:

On Sales Made By	Intercompany Profit in Inventories
Company *A*	$2,000
Company *B*	1,500
Company *C*	1,000
Total	$4,500

The adjustment debits the retained earnings of the respective companies in the Statement of Retained Earnings section of the working papers (on the line for the increase since acquisition) with the amounts of the intercompany profits shown above, and credits the inventory in the Income Statement section.

C—Intercompany profits in inventories, December 31, 1962—$6,800, as detailed below:

On Sales Made By	Intercompany Profit in Inventories
Company *A*	$3,000
Company *B*	2,000
Company *C*	1,800
Total	$6,800

The adjustment (for the total intercompany profit) debits the inventory in the Income Statement section and credits the inventory in the Balance Sheet section.

D—Intercompany dividends paid by Company *B*.

E—Intercompany dividends paid by Company *C*.

F—Book value, at acquisition, of Company *A*'s investment in stock of Company *B*.

G—Book value, at acquisition, of Company *C*'s investment in stock of Company *B*.

H—Book value, at acquisition, of Company *B*'s investment in stock of Company *C*.

Apportionment of Net Income for 1962

	Company *A*	Company *B*	Company *C*	Total
Net income per books....	$40,000	$30,000	$20,000	$90,000
Add—deduct*:				
Dividend income......	4,050*	2,400*	225*	6,675*
Intercompany profits in inventories:				
Beginning of year.	2,000	1,500	1,000	4,500
End of year......	3,000*	2,000*	1,800*	6,800*
Adjusted net income.....	$34,950	$27,100	$18,975	$81,025

Let B = the net income of Company B on a consolidated basis.
Let C = the net income of Company C on a consolidated basis.

$$\begin{aligned}
\text{Then } B &= \$27{,}100 + .8C \\
C &= \$18{,}975 + .05B \\
B &= \$27{,}100 + .8(\$18{,}975 + .05B) \\
&= \$27{,}100 + \$15{,}180 + .04B \\
.96B &= \$42{,}280 \\
B &= \$44{,}041.67 \\
C &= \$18{,}975 + .05B \\
&= \$18{,}975 + (.05 \times \$44{,}041.67) \\
&= \$18{,}975 + \$2{,}202.08 \\
&= \$21{,}177.08
\end{aligned}$$

Apportionment

Consolidated net income:		
From Company *A*'s operations....................	$34,950	
From Company *B*—90% of $44,041.67..............	39,638	
Total..		$74,588
Minority interest in Company *B*:		
5% of $44,041.67....................................		2,202
Minority interest in Company *C*:		
20% of $21,177.08....................................		4,235
Total..		$81,025

Observe how the minority interests in net income and the consolidated net income are shown at the bottom of the Income Statement section of the working papers on page 492.

Apportionment of Increases in Subsidiaries' Retained Earnings
From the Date of Acquisition to the Beginning of the Year

	Company *B*	Company *C*	Total
Increase in retained earnings since acquisition—per books	\$30,000	\$20,000	\$50,000
Profits unrealized because of intercompany profits in inventories on Dec. 31, 1961	1,500	1,000	2,500
Adjusted increase in retained earnings	\$28,500	\$19,000	\$47,500

Let B = Increase in retained earnings of Company B from date of acquisition to December 31, 1961, on a consolidated basis.
Let C = Increase in retained earnings of Company C from date of acquisition to December 31, 1961, on a consolidated basis.

$$\text{Then } B = \$28{,}500 + .8C$$
$$C = \$19{,}000 + .05B$$

$$\begin{aligned} B &= \$28{,}500 + .8(\$19{,}000 + .05B) \\ &= \$28{,}500 + \$15{,}200 + .04B \\ .96B &= \$43{,}700 \\ B &= \$45{,}520.83 \end{aligned}$$

$$\begin{aligned} C &= \$19{,}000 + .05B \\ &= \$19{,}000 + (.05 \times \$45{,}520.83) \\ &= \$19{,}000 + \$2{,}276.04 \\ &= \$21{,}276.04 \end{aligned}$$

Apportionment

Consolidated retained earnings:	
From Company *B*—90% of \$45,520.83	\$40,969
Minority interest in Company *B*:	
5% of \$45,520.83	2,276
Minority interest in Company *C*:	
20% of \$21,276.04	4,255
Total	\$47,500

Observe how the above apportionment is shown in the Statement of Retained Earnings section of the working papers on page 493.

	Minority Interests		
	Company *B*	Company *C*	Consolidated
Company *B*—Increase line	2,276		26,224
Company *C*—Increase line		4,255	14,745
Total consolidated interest—as above			40,969

COMPANY A AND SUBSIDIARIES
Consolidated Working Papers
For the Year Ended December 31, 1962

	Statements			Adjustments and Eliminations		Minority Interests		
	Company *A*	Company *B*	Company *C*			Company *B*	Company *C*	Consolidated
INCOME STATEMENT:								
Sales	300,800	248,000	183,000	25,000 A				706,800
Cost of goods sold:								
Inventory—Dec. 31, 1961	45,705	31,320	27,200		4,500 B			99,725
Purchases	235,000	195,000	140,000		25,000 A			545,000
Total	280,705	226,320	167,200					644,725
Inventory—Dec. 31, 1962	46,300	35,000	30,000	6,800 C				104,500
Cost of goods sold	234,405	191,320	137,200					540,225
Gross profit on sales	66,395	56,680	45,800					166,575
Dividend income:								
From Company *B*	4,050		225	4,275 D				
From Company *C*		2,400		2,400 E				
Total income	70,445	59,080	46,025					166,575
Deduct:								
Expenses	30,445	29,080	26,025					85,550
Minority interests						2,202	4,235	6,437
Total								91,987
Net income—forward	40,000	30,000	20,000	38,475	29,500	2,202	4,235	74,588

STATEMENT OF RETAINED EARNINGS:								
Retained earnings—Dec. 31, 1961:								
Company *A*	100,000			2,000 B				98,000
Company *B*:								
At acquisition		60,000		54,000 F 3,000 G		3,000		
Increase since		30,000		1,500 B		2,276		26,224
Company *C*:								
At acquisition			40,000	32,000 H			8,000	
Increase since			20,000	1,000 B			4,255	14,745
Total								138,969
Net income—brought forward	40,000	30,000	20,000	38,475	29,500	2,202	4,235	74,588
Total	140,000	120,000	80,000			7,478	16,490	213,557
Dividends:								
Company *A*	10,500							10,500
Company *B*		4,500			4,275 D	225		
Company *C*			3,000		2,400 E		600	
Retained earnings—Dec. 31, 1962—forward	129,500	115,500	77,000	131,975	36,175	7,253	15,890	203,057

COMPANY A AND SUBSIDIARIES
Consolidated Working Papers—Concluded
For the Year Ended December 31, 1962

	Statements			Adjustments and Eliminations		Minority Interests		
	Company *A*	Company *B*	Company *C*			Company *B*	Company *C*	Consolidated
BALANCE SHEET:								
Assets:								
Cash	120,950	64,600	74,950					260,500
Accounts receivable	47,750	43,900	45,300					136,950
Inventory	46,300	35,000	30,000		6,800 C			104,500
Investment in stock of Company *B*:								
By Company *A* (90%)	121,500				121,500 F			
By Company *C* (5%)			6,750		6,750 G			
Investment in stock of Company *C*:								
By Company *B* (80%)		72,000			72,000 H			
	336,500	215,500	157,000					501,950
Liabilities and stockholders' equity:								
Accounts payable	32,000	25,000	30,000					87,000
Capital stock:								
Company *A*	175,000							175,000
Company *B*		75,000		67,500 F 3,750 G		3,750		
Company *C*			50,000	40,000 H			10,000	
Retained earnings—brought forward	129,500	115,500	77,000	131,975	36,175	7,253	15,890	203,057
Minority interests						11,003	25,890	36,893
	336,500	215,500	157,000	243,225	243,225			501,950

Circuit Affiliations

Illustrative case. A circuit affiliation exists when one company holds stock in another company to which it is also affiliated through one or more minor parents or through connecting affiliates.

Observe that the following chart shows that Company C holds stock of Company A, and that it is also affiliated with Company A through the minor parent, Company B.

Circuit affiliations are rarely encountered; therefore, only one illustrative case will be given; it will show how the algebraic and successive approximations methods described in this chapter for dealing with reciprocal affiliations are used in dealing with circuit affiliations, whether or not there are intercompany profits. In this illustration it is assumed that there were no intercompany profits. The formula method also can be used, but it is not illustrated because of the infrequency of circuits and because a single formula would not be applicable to all of the possible varieties of circuits.

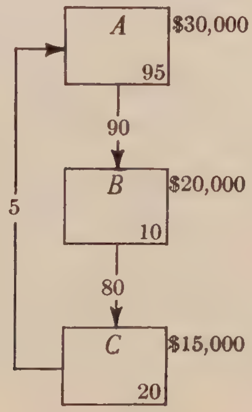

Chart 3.

Income apportionment by algebra or successive approximations. The procedures shown below are similar to those previously illustrated.

First step—By algebra.

Let A = net income of Company A on a consolidated basis.
B = net income of Company B on a consolidated basis.
C = net income of Company C on a consolidated basis.

$$A = \$30,000 + .9B$$
$$B = \$20,000 + .8C$$
$$C = \$15,000 + .05A$$

$$
\begin{aligned}
A &= \$30{,}000 + .9B \\
&= \$30{,}000 + .9(\$20{,}000 + .8C) \\
&= \$30{,}000 + \$18{,}000 + .72C \\
&= \$48{,}000 + .72(\$15{,}000 + .05A) \\
&= \$48{,}000 + \$10{,}800 + .036A \\
.964A &= \$58{,}800 \\
A &= \$60{,}995.85
\end{aligned}
$$

$$
\begin{aligned}
C &= \$15{,}000 + .05A \\
&= \$15{,}000 + (.05 \times \$60{,}995.85) \\
&= \$15{,}000 + \$3{,}049.79 \\
&= \$18{,}049.79
\end{aligned}
$$

$$
\begin{aligned}
B &= \$20{,}000 + .8C \\
&= \$20{,}000 + (.8 \times \$18{,}049.79) \\
&= \$20{,}000 + \$14{,}439.83 \\
&= \$34{,}439.83
\end{aligned}
$$

First step—By successive approximations.

Company *C*:					
Own net income..........	$15,000	$15,000		$15,000.00	$15,000.00
5% of Company *A*........	1,500	2,994		3,049.79	3,049.79
Total..................	$16,500	$17,994		$18,049.79	$18,049.79
Company *B*:					
Own net income..........	$20,000	$20,000	2 columns omitted	$20,000.00	
80% of Company *C*.......	13,200	14,395		14,439.83	
Total..................	$33,200	$34,395		$34,439.83	
Company *A*:					
Own net income..........	$30,000	$30,000		$30,000.00	
90% of Company *B*.......	29,880	30,956		30,995.85	
Total..................	$59,880	$60,956		$60,995.85	

Second step. The income apportionment is shown below.

Apportionment of Net Income

Consolidated net income:	
95% of $60,995.85....................................	$57,946.06
Minority interest in Company *B*:	
10% of $34,439.83....................................	3,443.98
Minority interest in Company *C*:	
20% of $18,049.79....................................	3,609.96
Total..	$65,000.00

"Treasury stock" procedure. When a subsidiary holds stock of the parent company, the generally accepted procedure for the preparation of consolidated statements is:

Make eliminations from the subsidiary's investment account and from the parent's Capital Stock and Retained Earnings accounts in the same way that eliminations are made in dealing with a parent's investment in a subsidiary. Any excess of

cost over book value at acquisition, or vice versa, should be dealt with consistently. If the parent held the subsidiary stock before the subsidiary acquired the parent stock, the book value of the parent stock at the date of acquisition by the subsidiary should be determined on a consolidated basis; that is, it should be computed by the equity method.

Retained earnings at the beginning of the statement period and the net income for the period should be apportioned between the controlling interest and the minority interest (if any) in the subsidiary by the simultaneous equation procedure or other equivalent procedures described on the preceding pages.

Recently, the following alternative treatment, sometimes referred to as the "treasury stock" procedure, has been proposed; it is based on a theoretical assumption that, in effect, the acquisition of the parent company's stock was made by the parent company.

Deduct the entire cost of the subsidiary's investment in the parent stock in the consolidated Stockholders' Equity section of the balance sheet.

In the computation of a minority interest in the subsidiary, do not use the simultaneous equation (or other comparable) procedure; compute the minority interest in the retained earnings at the beginning of, and the net income during, the statement period on the basis of amounts resulting solely from the subsidiary's own operations.

This suggested alternative procedure has been accorded little, if any, acceptance. It is possible that, with the passage of time, it may be viewed with more favor.

CHAPTER TWENTY-SEVEN

Foreign Exchange

Introductory comments. Foreign exchange is of interest and importance to:

- Banks and brokers dealing in foreign exchange.
- Business concerns exporting and importing merchandise, holding foreign investments, operating foreign branches or subsidiaries, or engaged in other activities involving receipts from, or remittances to, other countries.

The accountant in the United States becomes involved with foreign exchange when he finds it necessary to express, in terms of dollars, data evaluated in terms of foreign monies. For this purpose, exchange rates, which measure the value of the currency of one country in terms of the currency of another country, are used to convert foreign-currency amounts into dollar equivalents.

A variety of unusual and disturbing conditions have affected foreign exchange transactions for at least three decades. At the time this chapter is being written, varying degrees of confusion continue to prevail, and a return to conditions that in former times would have been described as normal is not foreseeable.

The following brief comments are descriptive of present-day conditions. The gold standard has been abandoned; the transfer of funds between countries is often subject to strict governmental control; in many instances, nations limit or block the conversion of

their money into foreign currencies. In many countries, exchange rates, instead of reflecting the influence of market forces, foreign trade, and the gold content of the monetary units, are fixed by governmental order. In some instances, such "official" exchange rates overvalue the local currency, with the result that black markets exist wherein foreign monies are exchanged for local money at rates different from those established by the government. Some countries have established several exchange rates, the appropriate rate depending on the nature of the transaction involving their currencies and that of a foreign country.

> For example, suppose that an American corporation establishes a foreign branch and ships American-made goods to the branch, and that the branch sells such merchandise locally at a profit. Of course, the proceeds realized by the branch will be in the form of the local currency and not in United States dollars. The American corporation presumably will want to convert such sums into dollars. The foreign government may have established one exchange rate for purposes of settling merchandise shipments (imports of the country where the branch is located), and another—often a less favorable rate—for profit transfers.

It is not uncommon to find situations where the official exchange rate is meaningless for all practical purposes because only limited sums are permitted to be transferred. And, finally, some foreign countries have prohibited all commerce with certain other nations. In extreme cases, assets owned by foreigners have been frozen or expropriated.

As a result of the conditions described above, portions of the traditional subject matter with respect to foreign exchange seem less pertinent, and some of the traditional accounting procedures are no longer applicable, or, at least, their applicability is subject to question. Under prevailing conditions, when an accountant encounters a matter involving foreign exchange, he must familiarize himself with the special conditions and regulations surrounding foreign exchange as it affects the particular case under consideration and use his best judgment in the matter so that the financial statements affected will not be misleading. The authors believe, however, that a knowledge of traditional foreign exchange accounting will help today's accountant to interpret and handle the diverse foreign exchange problems currently existing. Therefore, the following paragraphs, except those concluding this chapter, are devoted generally to traditional concepts of foreign exchange accounting.

Exchange rates. Current exchange rates may be quoted directly or indirectly.

Direct quotations are stated in the domestic currency.

All quotations are now made on this basis in the United States. The rates state the value of the foreign unit in cents (or dollars); for example, the following rates are stated in cents:

For English pounds:	280.00
For French francs:	20.00

Paris quotes pounds and dollars directly; the rates state the value of the foreign unit in francs; thus, for example:

For pounds:	14.00
For dollars:	5.00

Indirect quotations are stated in the foreign currency.

London quotes francs and dollars indirectly, that is, in terms of francs and dollars per pound; thus, for example:

For francs:	14.00
For dollars:	2.80

Current rates differ according to the nature of the exchange; that is, rates for cable transfers are higher than those for checks, and rates for checks are higher than those for time drafts. For simplicity of presentation, however, we shall give only minor consideration to these differences in the following discussion of accounting procedures.

Foreign purchases. An American importer, buying goods abroad, may be billed in dollars or in the foreign currency. If the American importer is billed in dollars, the foreign exporter will make the gain or bear the loss resulting from any fluctuation in exchange rates between the date of purchase and the date of settlement. For, if an American importer purchases goods billed to him at $1,000, no fluctuation in exchange can cause him to remit more or less than $1,000 in settlement; any fluctuations in exchange rates will affect the amount of foreign money which the exporter will obtain from the $1,000 payment.

But if the importer is billed in terms of foreign currency, the fluctuations in exchange rates will affect the settlement. To illustrate, assume that a Chicago merchant purchases goods from a London manufacturer billed to him at £1,000. The rate for pounds on the date of purchase is 2.80. The entry for the purchase will be:

Purchases	2,800	
Accounts payable (London manufacturer)		2,800

When the entry is posted to the London manufacturer's account, a notation will have to be made of the amount of the bill in pounds, or the account may be kept with pound and dollar columns on both sides.

If, at the date of settlement, the rate is 2.78, a draft for £1,000 will cost $2,780, and the entry to record the settlement will be as follows:

Accounts payable (London manufacturer)	2,800	
Cash		2,780
Exchange (or Purchases)		20

On the other hand, if the rate at the date of settlement is 2.81, the entry to record the settlement will be:

Accounts payable (London manufacturer)	2,800	
Exchange (or Purchases)	10	
Cash		2,810

If the Chicago merchant desires to protect himself against speculative risks from exchange fluctuations, he may, at the time of purchasing the goods, buy future exchange on London, the delivery of the future to be made to him at the date when he will require it for the settlement of his invoice.

Foreign sales. An American selling goods abroad may bill in dollars or in foreign currency. If the American bills in dollars, the foreign purchaser will make the gain or bear the loss resulting from any exchange fluctuation. If the American bills in the foreign currency, he will make the gain or bear the loss. To illustrate, assume that a Chicago manufacturer sells a bill of goods to a London merchant for £1,000. The rate at the date of sale is 2.80, and the sale is recorded as follows:

Accounts receivable (London merchant)	2,800	
Sales		2,800

A memorandum of the pound amount may be made in the London merchant's account on the Chicago manufacturer's books, or this account may be kept in both pounds and dollars.

If the rate is 2.81 when the Chicago manufacturer receives the London merchant's draft for £1,000, the Chicago manufacturer's bank will pay $2,810 for the draft, and the entry will be:

Cash	2,810	
Accounts receivable (London merchant)		2,800
Exchange (or Sales)		10

If the rate at settlement time is 2.78, the entry will be:

Cash	2,780	
Exchange (or Sales)	20	
Accounts receivable (London merchant)		2,800

If the Chicago manufacturer who sells goods and bills them in pounds wishes to protect himself against exchange fluctuations, he may sell future exchange on London for £1,000 for delivery at the date when he expects to receive the draft for £1,000.

Foreign branches. The methods of accounting for foreign branches are similar to the methods described in the chapter on domestic branches; but the problem is complicated by the fact that the home office books are kept in terms of the domestic currency whereas the branch books are kept in terms of the foreign currency. There are additional complications, of course, when the whole matter of foreign exchange is subject to the conditions noted in the introductory paragraphs of this chapter. Some mention will be made later of certain accounting problems associated with currently prevailing conditions.

Illustration. The following transactions form the basis of the illustration:

(1) The home office, in Chicago, opens a London branch, sending it a draft for £1,000, which the home office purchases when the rate is 2.78.
(2) The home office sends the branch a draft for $1,400. When the branch receives this draft and deposits it, the rate is 2.80; the London bank therefore credits the branch with £500.
(3) The home office sends to the branch goods valued at $27,900, which is cost. The shipment is made when the exchange rate is 2.79, and the goods are therefore taken up on the branch books at £10,000.
(4) Purchases on account, made by the branch in England, £3,000.
(5) Sales on account, £16,000.
(6) Collections on account, £15,000.
(7) Payment made to creditors on account of above purchases, £2,500.
(8) Expenses paid, £2,000.
(9) The branch sends the home office a draft for £5,000, which the home office sells at 2.79, thereby realizing $13,950.
(10) The branch sends the home office a draft for $16,680, which it purchased at 2.78, the cost being £6,000.

The branch inventory at the end of the year, stated at cost, is £2,000.

Entries during the period. Entries for transactions which are recorded only on the branch books present no new features and no difficulties. Reference to the following illustrative entries will

show that transactions 4, 5, 6, 7, and 8, which appear on the branch books only, are recorded in the manner described in the chapter on domestic branches; the entries are recorded in the foreign currency only, and the problem of conversion to domestic currency does not arise.

When cash is sent from the home office to the branch, the home office records the dollar cost of the remittance, and the branch records the pounds received. In transaction 1, the home office buys a £1,000 draft for 2.78. The cost is therefore $2,780, and the remittance is recorded on the home office books at this figure and is taken up on the branch books at £1,000. In transaction 2, the home office sends a draft for $1,400, and the branch records the receipt of the funds at the number of pounds received when the draft is deposited. Thus, in the first transaction, the rate at the date of purchase governs the conversion; in the second transaction, the rate at the date of deposit by the branch governs the conversion.

Branch Books			Home Office Books		
(1) Cash	£ 1,000		Remittances to branch	$ 2,780	
Remittances from home office		£ 1,000	Cash		$ 2,780
(2) Cash	500		Remittances to branch	1,400	
Remittances from home office		500	Cash		1,400
(3) Shipments from home office	10,000		Branch current	27,900	
Home office current		10,000	Shipments to branch		27,900
(4) Purchases	3,000				
Accounts payable		3,000			
(5) Accounts receivable	16,000				
Sales		16,000			
(6) Cash	15,000				
Accounts receivable		15,000			
(7) Accounts payable	2,500				
Cash		2,500			
(8) Expenses	2,000				
Cash		2,000			
(9) Remittances to home office	5,000		Cash	13,950	
Cash		5,000	Remittances from branch		13,950
(10) Remittances to home office	6,000		Cash	16,680	
Cash		6,000	Remittances from branch		16,680

It should be noted that, in the illustrative entries, the home office debits Remittances to Branch, instead of debiting the Branch Current account; and the branch credits Remittances from Home Office instead of crediting the Home Office Current account. These entries are made so that reciprocal accounts on the two books will show the value, in dollars and in pounds, of funds sent from the

home office to the branch. These reciprocal accounts will be found useful when the branch trial balance is converted into domestic currency at the end of the period.

The goods sent by the home office to the branch (transaction 3) are credited by the home office to Shipments to Branch at cost, and are taken up on the branch books at the current exchange value at the date of shipment or date of arrival, depending on the accounting policy adopted by the company.

Cash remittances from the branch to the home office are illustrated by the last two transactions. In (9), the branch buys a £5,000 draft, and the dollar value is determined when the home office sells it. In (10), the branch buys a draft for $16,680, paying for it at the rate of 2.78, the pound and dollar values both being known at the date of purchase. It should be noted that the branch charges Remittances to Home Office instead of the Home Office Current account, and the home office credits Remittances from Branch instead of Branch Current, for the purpose of providing reciprocal accounts showing the dollar and pound values of the remittances.

Branch closing and statements. At the close of the accounting period, the branch takes the trial balance shown below.

Cash	£ 1,000	
Accounts receivable	1,000	
Remittances to home office	11,000	
Accounts payable		£ 500
Remittances from home office		1,500
Home office current		10,000
Sales		16,000
Shipments from home office	10,000	
Purchases	3,000	
Expenses	2,000	
	£28,000	£28,000

Inventory—£2,000.

The branch then closes its books and prepares statements.

Revenue and expense	£15,000	
Shipments from home office		£10,000
Purchases		3,000
Expenses		2,000
Inventory	2,000	
Sales	16,000	
Revenue and expense		18,000
Revenue and expense	3,000	
Home office current		3,000
Home office current	11,000	
Remittances to home office		11,000
Remittances from home office	1,500	
Home office current		1,500

Branch Income Statement
For the Year Ended December 31, 196–

Sales		£16,000
Deduct cost of goods sold:		
Shipments from home office	£10,000	
Purchases	3,000	
Total	£13,000	
Deduct inventory—December 31	2,000	11,000
Gross profit on sales		£ 5,000
Deduct expenses		2,000
Net income		£ 3,000

Statement of Home Office Current Account
(On Branch Books)

Remittances to home office	£11,000	Shipments from home office	£10,000
Balance, December 31	3,500	Remittances from home office	1,500
		Net income	3,000
	£14,500		£14,500

Branch Balance Sheet
December 31, 196–

Assets		Liabilities and Home Office Current	
Cash	£1,000	Accounts payable	£ 500
Accounts receivable	1,000	Home office current	3,500
Inventory	2,000		
	£4,000		£4,000

Conversion of branch trial balance. A foreign branch typically sends to the home office copies of its trial balance, inventory, closing entries, income statement, transcript of the home office current account, and balance sheet. As the trial balance and inventory furnish the basis for all of the statements, the home office converts the trial balance and inventory from pounds to dollars, so that:

(1) The net income can be taken up on the home office books.
(2) The home office and branch financial statements can be combined.

Under the old and long-established foreign exchange accounting procedures, the following rules came to be accepted as standard practice for making conversions from foreign to domestic currency:

Current assets (including the final inventory and prepaid expenses) and current liabilities: at the rate which is current at the end of the period. This rate is used because it furnishes dollar amounts in reasonable conformity with our accounting rules governing the valuation of current assets and provides a good measure of the dollar amounts required to satisfy the short-term debts.

Fixed assets: at the rate which was current at the time when the assets were purchased. The reason for using this rate is discussed in a later section of this chapter.

Inventory at the beginning of the period: at the rate which was current at that date. This rate is used because, at the beginning of the period, the inventory was a current asset and was converted at the then current rate; as this inventory was the closing inventory in one statement and will be the opening inventory in the next statement, it should appear in the two statements at the same dollar value.

Revenue and expense accounts: at an average rate for the period. This average rate may be determined in several ways: by averaging the daily rates for the year; by averaging twelve monthly rates; by using a weighted average which gives more importance to the rates prevailing during busy seasons than to the rates prevailing during slack seasons; or by dividing the balance of the home office account, Remittances from Branch (dollars), by the balance of the branch account, Remittances to Home Office (pounds), thus determining the average rate at which transfers were made to the home office.

"Reserves." The rate at which a reserve should be converted will depend on the nature of the reserve. If it represents a current liability, it should be converted at the current rate. If it is a valuation reserve set up against a current asset, such as the allowance for bad debts, it should be converted at the current rate, since the asset is converted at that rate. Accumulated depreciation should be converted at the same rates as the fixed asset accounts. But since a fixed asset account may contain charges for purchases made at various dates (necessitating conversions at various rates), it is better to compute the dollar, or converted, balance of the contra account on a percentage basis. Thus, if the accumulated depreciation on the foreign books is 15% of the asset account balance, the contra account balance may be converted into dollars by multiplying the dollar value of the asset by 15%.

Long-term liabilities: at the rate prevailing when the liability was contracted.

Reciprocal accounts: at the dollar balances of the accounts on the home office books, without using any rate; thus:

Remittances from Home Office, at the dollar balance of the home office account, Remittances to Branch.

Remittances to Home Office, at the dollar balance of the home office account, Remittances from Branch.

Shipments from Home Office, at the dollar balance of the home office account, Shipments to Branch.

Home Office Current account, at the dollar balance of the Branch Current account on the home office books.

Some questions about the compatibility of the above conventional conversion rules with generally accepted principles of accounting will be raised later in the chapter.

Trial balances of home office and branch. The trial balances of the home office and branch are shown in adjoining columns below. Columns are provided for the conversion of the branch trial balance into dollars.

HOME OFFICE AND LONDON BRANCH
Trial Balances
December 31, 196–

	Home Office (Dollars)		London Branch (Pounds)		Conversion Symbols	London Branch (Dollars)	
Cash	29,450		1,000		C	2,800	
Accounts receivable	23,000		1,000		C	2,800	
Inventory (Beginning)	8,000						
Branch current	27,900						
Remittances to branch	4,180						
Remittances to home office			11,000		R	30,630	
Accounts payable		6,000		500	C		1,400
Remittances from branch		30,630					
Remittances from home office				1,500	R		4,180
Home office current				10,000	R		27,900
Capital stock		40,000					
Retained earnings		10,000					
Sales		150,000		16,000	A		44,640
Shipments from home office			10,000		R	27,900	
Shipments to branch		27,900					
Purchases	150,000		3,000		A	8,370	
Expenses	22,000		2,000		A	5,580	
	264,530	264,530	28,000	28,000		78,080	78,120
Exchange adjustment						40	
						78,120	78,120
Inventory—December 31, 196–	10,000		2,000		C	5,600	

Conversion symbols:
C—Current rate: 2.80.
A—Average rate: 2.79.
R—Balance in reciprocal account on home office books.

The branch trial balance, stated in pounds, will balance when sent by the branch to the home office, but it will not balance after the home office has converted the amounts into dollars, because

the items will have been converted at different rates. Therefore, an adjusting figure must be entered on the smaller side of the branch trial balance after conversion. This adjustment is supposed to measure the gain or the loss due to exchange fluctuations. If the figure must be entered on the debit side of the branch trial balance, it is a loss; if it must be entered on the credit side of the trial balance, it is a gain. The exchange adjustment will be discussed further on pages 510 to 512.

Separate and combined statements in dollars. Branch financial statements in dollars may be prepared from the converted trial balance of the branch, as illustrated below.

Branch Income Statement
For the Year Ended December 31, 196–

Sales		$44,640
Deduct cost of goods sold:		
Shipments from home office	$27,900	
Purchases	8,370	
Total	$36,270	
Deduct inventory—December 31	5,600	30,670
Gross profit on sales		$13,970
Deduct:		
Expenses	$ 5,580	
Exchange adjustment	40	5,620
Net income		$ 8,350

If combined statements are desired, they may be prepared from working papers of the type illustrated in Chapter 16 on "Home Office and Branch Accounting." Such working papers for the present illustration are shown on page 509.

Entries on the home office books. An entry is required at year end on the home office books to take up the branch net income or loss. In the illustration being used, the entry is as follows:

Branch current	8,350	
Branch net income or loss		8,350

Also, the balances in the remittances accounts are transferred at year end to the Branch Current account.

Branch current	4,180	
Remittances to branch		4,180
Remittances from branch	30,630	
Branch current		30,630

After these entries are posted, the Branch Current account will be:

Branch Current

Shipments to branch	27,900	Remittances from branch	30,630
Branch net income	8,350		
Remittances to branch	4,180		

(*Continued on page 510.*)

HOME OFFICE AND LONDON BRANCH
Combined Working Papers
For the Year Ended December 31, 196–

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Combined	
	Home Office		London Branch					
INCOME STATEMENT:								
Sales		150,000		44,640				194,640
Inventory (Beginning)	8,000						8,000	
Shipments from home office			27,900			27,900 A		
Shipments to branch		27,900			27,900 A			
Purchases	150,000		8,370				158,370	
Inventory—December 31, 196–		10,000		5,600				15,600
Expenses	22,000		5,580				27,580	
Exchange adjustment			40				40	
Totals	180,000	187,900	41,890	50,240				
Combined net income—down							16,250	
							210,240	210,240
STATEMENT OF RETAINED EARNINGS:								
Retained earnings		10,000						10,000
Combined net income—brought down								16,250
Retained earnings—December 31, 196– —down							26,250	
							26,250	26,250
BALANCE SHEET:								
Cash	29,450		2,800				32,250	
Accounts receivable	23,000		2,800				25,800	
Inventory— December 31, 196	10,000		5,600				15,600	
Branch current	27,900					27,900 C		
Remittances to branch	4,180					4,180 B		
Remittances to home office			30,630			30,630 B		
Accounts payable		6,000		1,400				7,400
Remittances from branch		30,630			30,630 B			
Remittances from home office				4,180	4,180 B			
Home office current				27,900	27,900 C			
Capital stock		40,000						40,000
Retained earnings—brought down								26,250
	274,530	274,530	83,720	83,720	90,610	90,610	73,650	73,650

Adjustments and Eliminations

A—Reciprocal shipments accounts.
B—Reciprocal remittances accounts.
C—Reciprocal current accounts.

The balance in the Branch Current account is $9,800, which agrees with the net assets held by the London branch, stated in dollars.

Assets:		
Cash	$2,800	
Accounts receivable	2,800	
Inventory	5,600	$11,200
Liabilities:		
Accounts payable		1,400
Net assets		$ 9,800

The year-end closing entries on the home office books will follow the pattern for closing entries shown in the chapter on "Home Office and Branch Accounting." In the closing process, the Branch Net Income or Loss account will be closed to Revenue and Expense.

Foreign exchange gain or loss. Foreign exchange gains or losses may be classified as follows:

(1) Those arising from the exchange of one type of money for another in order to settle an obligation or collect a debt.

Transactions of this type were illustrated on page 501, where an American importer settled an obligation billed in terms of a foreign currency. Depending on the movement of the rate of exchange, it was shown that a gain or a loss might occur. Conditions resulting in a gain of $20 or a loss of $10 were illustrated.

(2) Those arising from the conversion into dollars of a trial balance (or financial statements) stated in a foreign money.

This was illustrated on page 507, where the home office converted the trial balance of its London branch into dollars with a resulting exchange loss of $40.

The attitude of the accountant regarding gains or losses resulting from the movement of foreign exchange rates is not entirely logical or easy to explain. There are numerous practices and opinions in this area. It is generally agreed, however, that it is desirable to disclose foreign exchange gains or losses, in order that the results of foreign operations can be more effectively judged. For example, consider whether the following two cases, showing equal net income results from the activities of a foreign branch, are in fact identical.

Net income from operations	$10,000	$3,000
Exchange adjustment:		
Loss	4,000	
Gain		3,000
Net income	$ 6,000	$6,000

Accountants and businessmen prefer to know the extent of the influence that the movement of foreign exchange rates has had on the net result of foreign business activities. Gains or losses attributable to exchange rate fluctuations are less within the control of those managing foreign business operations than are other items of income and expense associated with such ventures.

One of the principal reasons for the current state of affairs regarding the accounting for foreign exchange gains or losses is that accountants are inclined to consider those classified above as type 1 as realized gains or losses, while those classified as type 2 are considered to be unrealized. The uncertainties surrounding convertibility of foreign currency in recent decades have contributed greatly to this interpretation. Also, the known fact that in many cases the net current assets held by foreign branches or subsidiaries are needed to carry on their operations and are not available for conversion into dollars, even if such transfer could be achieved routinely, has influenced the accountant. He has reasoned that any gains which *seem* to have been made by favorable fluctuations during one year may be offset by losses from unfavorable fluctuations in a succeeding year.

In the matter of income determination, realization is an important test or prerequisite. Furthermore, accountants are inclined toward conservatism in the face of uncertainties. It is likely that such reasoning and attitudes have been the basis for the well-established practice of deferring gains resulting from the conversion of account balances by crediting them to a reserve, with the understanding that any balance in such reserve can be used to absorb future unrealized losses. However, if no credit balance exists, losses, even though they are considered as being unrealized, should not be postponed but should be recognized immediately as an expense. If such losses, whether realized or unrealized, are unusually large in any given year, and particularly if they are the result of some abnormal event such as a currency devaluation, consideration may be given to charging the loss directly to Retained Earnings.

Although there is a preponderance of support for the practices just described, there are well-known authorities who contend that both unrealized losses and unrealized gains from foreign exchange fluctuations should be deferred.* In contrast, there is support for the position that neither should be deferred. Also, the validity or logic of the distinction commonly made between realized and

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* Perry Mason takes this position in his dissent to Chapter 12 of Bulletin 43 of the Committee on Accounting Procedure.

unrealized in connection with foreign exchange gains and losses has been forcefully challenged.* In short, there is so much diversity of practice and opinion, and there are so many variations in the methods used by governments to control exchange rates and convertibility of currencies, that the professional accountant must weigh the relative merits of all methods that might be applicable to each case and, as noted earlier, use his best judgment in the matter so that the financial statements affected will not be misleading. It is clear, however, that full disclosure is required.

Because it is desirable to have a basis for homework solutions, and because the authors believe the practice is acceptable, the illustrations and solutions will make no distinction between realized and unrealized gains or losses from exchange fluctuations and will defer neither.

Branch fixed assets. As noted earlier, it is customary to convert fixed assets carried on the branch books by using the exchange rate prevailing at the time such fixed assets were acquired. In this way, the dollar figures for branch fixed assets are not subject to fluctuations caused by changes in exchange rates. If current exchange rates were used, and if such rates were higher or lower than the rates prevailing at the dates of acquisition of the fixed assets, the assets would, in effect, be written up or down as a result of exchange rate fluctuations. Such periodic revision of branch fixed assets in terms of dollars is not consistent with the conventional cost basis of accounting for fixed assets.

Since branch fixed assets should be converted at the rates which prevailed at the dates of acquisition, it is necessary to provide some accounting method by which the dollar equivalent of foreign currency expenditures for fixed assets can be easily ascertained. For, if expenditures for branch fixed assets are made frequently, many different rates will be applicable because of different acquisition dates, and each rate will apply to only a portion of the fixed asset account.

If the fixed asset accounts are kept on the branch books, two money columns should appear on each side. Expenditures made by the branch should be charged to the account in pounds, with a memorandum in the inner, or dollar, column, showing the dollar value of the pounds spent. If fixed assets are purchased by the home office and sent to the branch, the home office should charge the Branch Current account with the dollars spent and notify the branch of the equivalent pound and dollar values at the date the

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* See Chapter III of *Reporting Foreign Operations* by S. R. Hepworth. (Ann Arbor, Michigan: Bureau of Business Research, University of Michigan, 1956.)

expenditure was made. The branch will then debit the fixed asset accounts at both the dollar and pound values and credit the Home Office Current account at the pound value. The fixed asset account will thus show the dollar cost of the fixed assets, as well as the pound cost; and the dollar cost thus shown will be used when the branch trial balance is converted into dollars.

The problems of conversion can be simplified somewhat by carrying the branch fixed assets in dollars on the home office books. If this practice is followed, any expenditure made by the branch for fixed assets will be charged to the Home Office Current account in pounds. The branch will notify the home office of the expenditure and of the rate prevailing at the date of the expenditure, and the home office will debit branch fixed assets (in properly classified accounts) and credit the Branch Current account at the dollar value obtained by converting at the stated rate. Any expenditures made by the home office will be charged to the branch fixed asset accounts on the home office books.

When the fixed assets are carried on the home office books, the depreciation entry will be made on the home office books. After taking up the net income as shown by the branch, the home office should make an entry debiting Branch Net Income or Loss and crediting Depreciation Expense. Expenses incurred by the home office for the benefit of the branch operations may be similarly handled.

The foreign subsidiary. Foreign operations frequently are conducted by subsidiaries incorporated under the laws of a foreign country. In such instances, the parent company should charge the Investment in Foreign Subsidiary account with the dollar cost of the stock. If the parent elects to use the equity method of accounting for its investment in the foreign subsidiary, it will debit the investment account with the parent's share of the subsidiary earnings, and credit the investment account with the dollar proceeds of drafts received as dividends. When the accounts are converted, the subsidiary Capital Stock account should be converted by using the rate which was current when the investment was made by the parent company, and the subsidiary Retained Earnings account as shown by the trial balance should be stated at the dollar amount shown for the retained earnings of the subsidiary at the close of the preceding year. In all probability, an exchange adjustment will result from the conversion. If an Exchange account appears on either the parent's or subsidiary's books as a result of transfers during the year, the exchange adjustment can be assigned to such Exchange account when consolidated statements are being prepared.

LONDON COMPANY

Trial Balance—December 31, 1960

	Pounds		Symbols	Dollars	
Cash	9,000		C	25,020	
Accounts receivable	3,000		C	8,340	
Inventory—December 31, 1959	7,000		F	19,670	
Land	1,000		B	2,800	
Building	6,000		B	16,800	
Accumulated depreciation		720	E		2,016
Accounts payable (United States Company)		13,900	B		38,920
Capital stock		10,000	I		28,000
Retained earnings		3,520	H		9,950
Dividend	2,000		G	5,550	
Sales		30,000	A		83,700
Purchases	27,800		D	77,840	
Expenses	2,000		A	5,580	
Depreciation expense	240		E	672	
Exchange	100		A	279	
	58,140	58,140		162,551	162,586
Exchange adjustment				35	
				162,586	162,586
Inventory—December 31, 1960	10,000		C	27,800	

Conversion symbols:

A—Average rate for year: 2.79.

B—Dollar balance shown in dollar memorandum column on London Company's books.

C—Current rate on December 31, 1960: 2.78.

D—Intercompany sales, per parent company's records.

E—Per cents of pound balances to pound asset balance (12% and 4%) applied to dollar balances.

F—Current rate on December 31 one year ago: 2.81.

G—Amount credited to Dividend from Subsidiary on parent company's books.

H—Dollar amount shown at close of preceding year.

I—Dollar balance shown in investment account on parent company's books.

UNITED STATES COMPANY AND SUBSIDIARY
Consolidated Working Papers
For the Year Ended December 31, 1960

	Trial Balances and Ending Inventories				Adjustments and Eliminations		Consolidated	
	United States Company		London Company					
Income Statement:								
Sales		277,840		83,700	77,840 A			283,700
Inventory—December 31, 1959	20,000		19,670				39,670	
Purchases	235,000		77,840			77,840 A	235,000	
Inventory—December 31, 1960		14,000		27,800				41,800
Expenses	22,000		5,580				27,580	
Depreciation expense	3,000		672				3,672	
Exchange ($279 + $35)			314				314	
Dividend from subsidiary		5,550			5,550 C			
Net income—down	17,390		7,424		83,390	77,840	19,264	
	297,390	297,390	111,500	111,500			325,500	325,500
Statement of Retained Earnings:								
Retained earnings—December 31, 1959:								
United States Company		50,000						50,000
London Company:								
At acquisition				—0—				
Increase to December 31, 1959				9,950				9,950
Total								59,950
Net income—brought down		17,390		7,424	83,390	77,840		19,264
Dividends:								
United States Company	7,500						7,500	
London Company			5,550			5,550 C		
Retained earnings—December 31, 1960—down	59,890		11,824		83,390	83,390	71,714	
	67,390	67,390	17,374	17,374			79,214	79,214
Balance Sheet:								
Cash	53,770		25,020				78,790	
Accounts receivable	48,920		8,340			38,920 B	18,340	
Inventory	14,000		27,800				41,800	
Investment in London Company	28,000					28,000 D		
Land	8,000		2,800				10,800	
Building	45,000		16,800				61,800	
Accumulated depreciation		16,000		2,016				18,016
Accounts payable		21,800		38,920	38,920 B			21,800
Capital stock:								
United States Company		100,000						100,000
London Company				28,000	28,000 D			
Retained earnings—brought down		59,890		11,824	83,390	83,390		71,714
	197,690	197,690	80,760	80,760	150,310	150,310	211,530	211,530

Adjustments and Eliminations

A—Intercompany sales.
B—Intercompany accounts receivable and payable.
C—Intercompany dividend.
D—Book value of subsidiary stock at date of acquisition.

Note: Intercompany profit in inventories is ignored in this illustration. No new features would be involved.

perfecciona el contrato, como consagra el artículo 2.1.4. Empero, no procede la revocatoria si en la oferta se indica, al señalarse un plazo fijo para la aceptación o de otro modo, que es irrevocable o si el destinatario pudo razonablemente considerar que la oferta era irrevocable y haya actuado en consonancia con dicha consideración.

La oferta se extingue cuando el destinatario hace manifestación de rechazo y ésta llega al oferente, como dice el artículo 2.1.5.

Según el mandato del artículo 2.1.6, la aceptación de la oferta puede consistir en una declaración o cualquier acto del destinatario que indique asentimiento, es decir, debe apreciarse una voluntad vinculante; por eso el silencio o la inacción, por sí solos, no constituyen aceptación. Pero si por virtud de la oferta, o de las prácticas que las partes hayan establecido entre ellas o de los usos, el destinatario puede indicar su asentimiento ejecutando un acto sin notificación al oferente, surte efecto la aceptación. Y como regla de innegable y obvio contenido: la aceptación surte efecto siempre y cuando la indicación del asentimiento llega al oferente.

El plazo de aceptación puede ser fijado, sin embargo, si se diere un vacío por falta de señalamiento que se suple por el que sea razonable, teniendo en cuenta las circunstancias, incluso la rapidez de los medios de comunicación empleados por el oferente. El plazo en todo caso comienza a correr desde el momento que se expide o envía la oferta, entendiéndose que la fecha que indique la oferta es la de la expedición, salvo que las circunstancias indiquen otra cosa. Estas dos situaciones están recogidas en los artículos 2.1.7 y 2.1.8.

La tardía aceptación en principio no se tiene como convenida. Empero, surtirá efectos como aceptación si el oferente sin demora justificada, informa de ello al destinatario o lo notifica en tal sentido (artículo 2.1.9).

También puede ocurrir que el destinatario retire la aceptación o sea que recoja su voluntad, si llega antes o al mismo tiempo que la aceptación haya producido efecto, como previene el artículo 2.1.10. El retiro de la aceptación significa que no se crea el vínculo jurídico que la oferta propone.

La **contraoferta**, clausulado común con la Convención de Viena sobre la compraventa internacional de mercaderías, se entiende, con el artículo 2.1.11, cuando el destinatario hace manifestación de aceptación pero al mismo tiempo incluye adiciones, limitaciones u otras modificaciones que hacen suponer que es un rechazo de la oferta. Tal vez marca diferencia en los dos estatutos la no inclusión de la noción del carácter de invitación y no de oferta cuando ésta no se

dirige a persona determinada de que trata la Convención. Sin embargo, habría que reconocer, para todas las situaciones similares en la contratación internacional, que este criterio también es aplicable.

En el Capítulo de la Formación de los *Principios* Unidroit se regulan otros aspectos que guardan relación con el contrato celebrado o mejor con la aceptación o el perfeccionamiento del contrato, a saber:

1. Si dentro de un plazo razonable con posterioridad al perfeccionamiento del contrato fuese enviado escrito que pretenda constituirse en confirmación de aquél y contuviere términos adicionales o diferentes, éstos pasarán a integrar el contrato a menos que lo alteren sustancialmente o que el destinatario, sin demora justificada, objete tales discrepancias (artículo 2.1.12).

2. El contrato condicionado a acuerdos específicos o al cumplimiento de requisitos formales no se entenderá perfeccionado sino una vez que se haya logrado un arreglo sobre los asuntos específicos o se celebre bajo una forma determinada (artículo 2.1.13).

3. Si las partes han tenido el propósito de celebrar un contrato y dejan estipulaciones deliberadamente pendientes a negociaciones ulteriores o su determinación por un tercero, esas situaciones no impedirán su celebración. Tampoco se verá afectada la existencia del contrato por el hecho de que las partes no se pongan de acuerdo acerca de dicho término o el tercero no lo determine, siempre y cuando haya algún motivo razonable para determinarlo, teniendo en cuenta las circunstancias y la común intención de las partes (artículo 2.1.14).

Del mismo modo, se aprecia otro grupo de cláusulas en la Sección de la Formación, que necesariamente no se relaciona con la oferta:

a. La que gira en torno a la libertad para negociar, ubicada en el campo de la buena fe, pues se califica y sanciona expresamente como un proceder de mala fe cuando una de las partes negocia o interrumpe las negociaciones, con el deber de indemnizar el daño que se cause por ese comportamiento (artículo 2.1.15).

b. La que trata del deber de confidencialidad de la información que se suministre con ese carácter durante las negociaciones y por ende no puede ser revelada ni utilizada injustificadamente en provecho propio, independientemente de que con posterioridad se perfeccione o no el contrato (artículo 2.1.16).

Exclusion of foreign accounts. As a general rule, the accounts of a foreign branch or subsidiary should not be combined with those of the home office or parent if normal operating relations have been disrupted because of war or other conditions, or if exchange restrictions are such that there is considerable unlikelihood that any portion of current earnings or amounts due for current shipments can be converted into United States dollars.

This general question received attention by the Committee on Accounting Procedure in Chapter 12 of Bulletin 43, where the following suggestion was offered: "A sound procedure for United States companies to follow is to show earnings from foreign operations in their own accounts only to the extent that funds have been received in the United States or unrestricted funds are available for transmission thereto." As the committee realized, the above suggestion could create misleading financial statements unless coupled with the requirement that provision should be made also for "known losses" from foreign investments or foreign operations. In other words, the position shown should not be made better by the omission of foreign results.

Disclosure. Opinions regarding "known losses" and prospects for release of blocked or restricted funds may honestly differ. Under these circumstances, disclosure is of paramount importance. In Bulletin No. 43, the Committee on Accounting Procedure detailed several procedures for providing adequate disclosure of information relating to foreign subsidiaries. The suggestions appear to be equally pertinent for foreign branches not separately incorporated. The suggestions are paraphrased below to apply to both subsidiaries and branches.

(a) Exclude accounting data on foreign operations from regular financial statements and, as to foreign operations, present a summary in suitable form of the assets and liabilities, and the revenues and expenses for the year.

(b) Combine the domestic and foreign accounting data as customary and furnish in addition the summary described in (a).

(c) Present combined statements and statements accounting for domestic affairs only.

If the income statement of a foreign subsidiary is consolidated with that of the parent company, consideration should be given to any tax which the foreign government or the United States government might levy on the transfer of earnings to the parent company. Provision should be made for such taxes if material, or a footnote should state that no provision has been made. The absence

of such a provision may be warranted if transfers of earnings are not contemplated because they have been invested permanently in foreign assets, or for other reasons.

Losses from devaluation. Losses resulting from currency devaluation are the product of governmental action and therefore should be distinguished from losses resulting from normal fluctuations in exchange rates. As a result of a number of currency devaluations after World War II, the Research Department of the American Institute of Certified Public Accountants issued a statement on "Accounting Problems Arising from Devaluation of Foreign Currencies." The position taken in that release, since incorporated into Bulletin 43, is stated as follows:

"While the possibility of losses from currency devaluation may ordinarily be considered to be a risk inherent in the conduct of business in foreign countries, the world-wide scope and unprecedented magnitude of devaluations that have occurred in recent years are such that they cannot be regarded as recurrent hazards of business. Accordingly, exchange adjustments arising from such extraordinary developments, if so material in amount that their inclusion in the income statement would impair the significance of net income to an extent that misleading inferences might be drawn therefrom, appear to be of such nature that they might appropriately be charged to surplus."

Modifications in standard conversion practices. A sizable devaluation of foreign currencies creates special conversion problems for the current and subsequent years' financial statements. For instance, with respect to long-term liabilities, the standard practice for making conversions from foreign to domestic currency was to use the rate of exchange prevailing when the liability was contracted. However, since the long-term liabilities will be settled by the use of post-devaluation currency, it would appear logical to translate the long-term liabilities at a post-devaluation rate. This will reduce the over-all loss from devaluation. In a sense, long-term liabilities act as a hedge against currency devaluation.

As noted earlier, balances in revenue and expense accounts are customarily converted at an average rate. If the devaluation is substantial, there is some question whether an average exchange rate for the period is appropriate for converting revenue and expense accounts. Even a weighted average may produce less realistic results than if pre-devaluation rates are ignored and the average is based entirely on post-devaluation rates. In extreme cases, the accountant should consider preparing cut-off statements as of the devaluation date. However, generalizations in this matter

are of doubtful validity. Each case must be decided by considering all of the facts surrounding the particular set of circumstances.

As mentioned earlier, the existence of "official" rates of exchange and governmental limitations on the amount of dollar conversions have created black markets in foreign currencies in many countries. Under these conditions, the question may arise whether black market rates may be used for accounting statement purposes in converting foreign sums into dollar equivalents. Accountants generally do not recommend the use of black market rates for two reasons:

(1) Most black markets deal in sums that are relatively insignificant.
(2) Moreover, black market rates have no legal recognition, and as a general rule business corporations are not interested in resorting to illegal methods in the conduct of any phase of their foreign operations.

A distinction should be made, however, between official rates, black market rates, and free market rates. Free market rates are legal rates; their use for converting foreign sums into United States dollars for accounting statement purposes may be appropriate under certain circumstances. For example, a foreign government may prescribe that official rates must be used in the settlement of all obligations arising from imports, but may permit the conversion of local currency into United States dollars in a free market at a rate not controlled or set by the government, provided that the local currency was acquired from certain specified sources. The net income of a foreign subsidiary might be one such source, and the conversion of local currency in an amount equal to the net income might be permitted at the free market rate.

Some conventional conversion procedures challenged. In a recent monograph* the conversion rates traditionally used in converting inventories, prepaid expenses, and long-term liabilities into dollars were challenged. Instead of treating all current assets as belonging in a single class of items which can properly be converted by the use of the rate which is current at the end of the period, Professor Hepworth recommends that current assets be separated into two classes, namely, money-value items and cost-outlay items. The argument is made that the current rate should be applied only to money-value items (for example, cash and receivables). For cost-outlay items (inventories and prepaid

* Hepworth, *op. cit.*

expenses), the use of exchange rates which will produce the equivalent of the original dollar cost is advocated.

In support of this plan, Professor Hepworth cites the case of dollar-origin inventory. To illustrate, assume that the United States home office ships goods costing $77,840 to its London branch when the exchange rate is 2.78. The London branch would record the shipment at £28,000. If one-half of the shipment is unsold at year end, the branch would report the ending inventory as £14,000.

Assume further that the current rate at year end is 2.80. The use of 2.80, the traditional procedure, will convert the inventory to $39,200. This is above the dollar cost of the inventory, which amounts to $38,920 ($77,840 ÷ 2). This results in an inventory valuation not in conformity with generally accepted principles of accounting.

The same result is possible when the current rate is applied to inventory purchased locally by a foreign branch or subsidiary with its own currency. That is, the converted dollar amount can be in excess of cost as measured by the dollar equivalent spent at date of purchase. To show inventories held by foreign branches or subsidiaries at cost, conversion at the exchange rate in effect on the date on which the goods in the inventory were acquired is necessary.

The same reasoning applies to prepaid expenses.

Concerning long-term liabilities, the following quotation seems to state the case:

"From the point of view of the proper dollar valuation of obligations payable by a foreign subsidiary in foreign currency, there is no fundamental difference between current accounts payable and long-term debt. Both represent a contractual obligation to disburse a fixed number of foreign currency units at a date subsequent to that on which the translation into dollars is being performed. In principle, each type should be converted into dollars at the rate of exchange which is expected to prevail on the date on which the particular liability is payable. Due to the inherent hesitancy, certainly understandable in the case of foreign exchange rates, on the part of accountants to incorporate predictions of future events into the accounting process, the rate which is effective on the date of the translation is resorted to as the best available objective datum. On rational grounds, however, the current rate would be applicable to both current and long-term liabilities, with full recognition that in neither case does its use achieve perfect results."*

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* *Ibid.*, p. 9.

It is too early to predict the potential impact which the above study may have on conventional conversion procedures. It does seem to the authors that the recommendations noted are capable of producing results more in conformity with generally accepted principles of accounting than are the traditional procedures.

CHAPTER TWENTY-EIGHT

Public Accounts

Governments and institutions. Public accounts include accounts of (1) governments and subdivisions thereof, such as the national and state governments, counties, cities, villages, and park, drainage, and school districts; and (2) institutions, such as hospitals, libraries, and universities.

Sources of assets. The assets recorded in public accounts are derived from the following principal sources:

(1) Taxes and other revenues, including licenses, fees, fines, franchises, and service charges.
(2) Loans, on bond issues or otherwise.
(3) Assessments against property owners for improvements.
(4) Grants from superior governments.
(5) Gifts.

Funds. The National Committee on Governmental Accounting has defined a *fund* as "a sum of money or other resources segregated for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations and constituting an independent fiscal and accounting entity."*

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* National Committee on Governmental Accounting, *Municipal Accounting and Auditing*, p. 234. Chicago: Municipal Finance Officers' Association of the United States and Canada, 1951.

The authorizations for the levying of taxes or assessments or for the issuance of bonds prescribe the purposes for which the funds thus obtained may be used. Grants and gifts are usually received subject to definite limitations regarding the uses thereof.

Since each fund is usually available for one designated purpose, it is imperative that a separate group of accounts be kept for each fund, showing the amounts of its assets, the liabilities and commitments payable therefrom, and the amount of its surplus, or the excess of the assets over the liabilities and encumbrances of the fund.

The accounts of each fund constitute a complete accounting unit, from which a balance sheet can be prepared. This grouping of the accounts by funds is an important and peculiar feature of public accounts.

Classification of funds. The following classification of funds is not exhaustive; it merely indicates the nature of different funds:

(I) Expendable funds:
- (1) Revenue funds, derived from taxes or other revenue sources, and used for current operating activities:
  - (a) General fund—expendable for all general operating activities of the government or institution.
  - (b) Special, or special revenue, funds—derived from revenues specifically raised for a particular purpose, such as a hospital, a library, or a park.
- (2) Special assessment funds to be expended for local improvements, the cost of which will be charged, in whole or in part, to the owners of the property that is regarded as benefited by the improvement.
- (3) Bond funds, arising from the sale of bond issues, and to be expended for public improvements, for refunding previous bond issues, or to provide capital for working capital funds.
- (4) Sinking funds for the payment of indebtedness.
- (5) Trust funds, if principal as well as income is expendable.

(II) Nonexpendable funds:
- (1) Working capital or revolving funds; although expenditures are made from these funds, their principal is kept intact because they are replenished by receipts from other funds.
- (2) Trust funds, if only the income is expendable.

It will be noted that trust funds may be either expendable or nonexpendable. Trust funds may be obtained from public or other sources, and are held for particular, designated purposes. Endowment funds and cemetery-care funds held by a city as custodian are illustrations.

The nature of these various classes of funds will be clarified by the following discussion and by the illustrations of the accounts reflecting the operations of the funds.

In addition to the accounts with the various funds, a group of accounts should be maintained showing the fixed assets owned and the bond issues that are not direct obligations of particular funds.

If utilities or other public enterprises are operated, accounts for them will be maintained similar to those of privately owned utilities or businesses.

The budget. The operations of expendable revenue funds are controlled by the budget, which shows, with respect to each fund, the authorized estimated revenues and the approved appropriations for expenditures. A well-prepared budget will usually contain:

Three principal statements (illustrated below):
- A budget summary.
- A schedule showing the estimated revenues classified by sources.
- A schedule of appropriations classified by departments.

Numerous supporting statements, such as:
- A statement comparing the estimated revenues for the current year and the actual revenues for previous years.
- A statement comparing the appropriations for the current year and the expenditures for prior years.
- A statement for each department, showing the appropriations classified according to the objects of the proposed expenditures, such as salaries, office expense, equipment, and repairs.

Budget Summary

Schedule *A*

	General Fund	Special Revenue Fund	Total
Unexpended balance (if any) from preceding year, available for expenditure in current year	$ —	$ —	$ —
Estimated revenues (Schedule *B*)	100,000	30,000	130,000
Total	$100,000	$30,000	$130,000
Appropriations (Schedule *C*)	98,000	29,000	127,000
Unappropriated surplus	$ 2,000	$ 1,000	$ 3,000

Estimated Revenues — Schedule *B*

Sources	General Fund	Special Revenue Fund	Total
Taxes	$ 71,000	$25,000	$ 96,000
Licenses, fees, etc	29,000	5,000	34,000
Total	$100,000	$30,000	$130,000

Appropriations — Schedule *C*

Departments	General Fund	Special Revenue Fund	Total
General administration	$ 30,000	$20,000	$ 50,000
Police department	25,000	—	25,000
Public welfare	8,000	—	8,000
Other items detailed	35,000	9,000	44,000
Total	$ 98,000	$29,000	$127,000

Outline of illustration. The remainder of this chapter consists of illustrative transactions and general ledger entries therefor, applicable to the following typical funds and accounts of a municipality:

General fund.	Sinking fund.
Special revenue fund.	Special assessment fund.
Stores fund.	Trust fund.
Bond fund.	Property and general bonded debt.

There is also some discussion of subsidiary ledger accounts. Finally, the customary balance sheets and other statements are discussed.

To simplify the illustration, it will be assumed that, at the beginning of the period, there are no balances in any fund accounts, and that the only accounts open on the books of the municipality are the following:

Property (debit balance)	$1,000,000
Investment in general fixed assets (credit balance)	1,000,000

These balances are shown, with the identifying number (1), in the summary (page 555) of the accounts of the property and general bonded debt section of the general ledger.

General Fund

Transactions. Journal entries for some typical transactions involving the general fund are presented in this section. A summary of the general ledger accounts of the general fund used to record the illustrative transactions appears on pages 532 and 533;

one column is devoted to each account; debit entries are unstarred; credit entries are starred. The entries for the transactions carry numbers that correspond to the numbers in the following statement of assumed facts:

(2) The total estimated revenues for the general fund for the fiscal year, as shown by the budget on page 525, are $100,000.

Estimated revenues	100,000	
Unappropriated surplus		100,000

(3) The total appropriations shown by the budget are $98,000.

Unappropriated surplus	98,000	
Appropriations		98,000

(4) The tax levy for general fund purposes is $75,000; it is estimated that $3,000 of the amount will not be collected.

Taxes receivable—Current	75,000	
Allowance for uncollectible taxes—Current		3,000
Revenues		72,000

Note: Whenever uncollected taxes become delinquent, the delinquent amounts are transferred by journal entry to a separate account, Taxes Receivable—Delinquent. The portion of the allowance for uncollectible taxes believed to be applicable to the delinquent taxes is also transferred to a separate contra account, Allowance for Uncollectible Taxes—Delinquent.

(5) Tax anticipation notes amounting to $30,000 are sold for cash at par.

Cash	30,000	
Tax anticipation notes payable		30,000

(6) Current taxes in the amount of $68,000 are collected.

Cash	68,000	
Taxes receivable—Current		68,000

(7) Tax anticipation notes in the amount of $20,000 are paid.

Tax anticipation notes payable	20,000	
Cash		20,000

(8) A loan of $10,000 is made to the special revenue fund.

Special revenue fund	10,000	
Cash		10,000
(A contra entry in the accounts of the special revenue fund is described later.)		

Note: In the interests of brevity, the vouchers payable step in the recording of disbursements is eliminated in the case of transfers between funds.

(9) A fund is established for the purpose of purchasing stores to be furnished to all other funds as required by their operations; $5,000 is advanced to this fund to provide it with working capital.

Stores fund	5,000	
Cash		5,000

(A contra entry in the accounts of the stores fund is described later.)

(10) Materials are requisitioned from the stores fund; the stores fund charges the general fund $1,000 for these materials.

Appropriation expenditures	1,000	
Stores fund		1,000

(A contra entry will be made in the accounts of the stores fund.)

(11) Cash is transferred to the stores fund in payment.

Stores fund	1,000	
Cash		1,000

(A contra entry will be made in the stores fund accounts.)

(12) Commitments are made in the form of orders and contracts in an estimated amount of $20,000. These commitments are encumbrances against the appropriations; that is, they reduce the balance which may be used for other purposes.

Encumbrances	20,000	
Reserve for encumbrances		20,000

(13) Certain materials previously ordered (see transaction 12) are received; two entries are required:

(a) The estimated cost of the materials was $14,000, and the entry for the commitment should be reversed.
(b) The invoice price of the materials is $15,000, and vouchers for that amount are certified.

(a)

Reserve for encumbrances	14,000	
Encumbrances		14,000

(b)

Appropriation expenditures	15,000	
Vouchers payable		15,000

(14) Vouchers totaling $12,000 are paid by warrants issued against the treasury. Practice differs regarding the accounting for warrants; two methods are in use:

First method: When warrants are issued by the accounting or disbursing department, debit Vouchers Payable and credit Cash.

Vouchers payable	12,000	
Cash		12,000

Second method: When warrants are issued, debit Vouchers Payable and credit Warrants Payable. When paid vouchers are returned by the treasurer to the accounting department, debit Warrants Payable and credit Cash.

Under the first method of accounting, the cash is regarded as reduced immediately by the issuance of the warrant; under the second method, the cash is not regarded as reduced until the warrant has actually been presented to, and paid by, the treasurer. The first method is used in the illustrative entries.

(15) Some of the equipment owned at the beginning of the year is sold for $2,000.

Cash	2,000	
Revenues		2,000

(An entry for the cost of the property disposed of, to be made in the property and general bonded debt group of accounts, is discussed later.)

(16) A cash payment of $6,000 was made for the purchase of equipment; two general fund entries are required.

(a) For vouchers certified.

Appropriation expenditures	6,000	
Vouchers payable		6,000

(b) For warrants issued.

Vouchers payable	6,000	
Cash		6,000

Note: Fixed assets purchased through the resources of the general fund are not considered to be assets of the general fund. As in the case of commercial accounting, such outlays are capitalized, but in a separate group of accounts. This will be illustrated later when the property and general bonded debt group of accounts is discussed. Fixed assets are excluded from the general fund accounts because such assets do not represent resources from which the governmental unit intends to meet its liabilities or to earn revenue for the general fund.

(17) Pursuant to an appropriation, a cash contribution of $5,000 is made to a trust fund, the nature of which is more fully discussed in the comments relative to the trust fund accounts.

Appropriation expenditures	5,000	
Cash		5,000

(A contra entry in the trust fund accounts is described later.)

(18) Pursuant to an appropriation, a $2,000 payment is made to the sinking fund.

Appropriation expenditures	2,000	
Cash		2,000

(A contra entry will be found in the sinking fund accounts.)

(19) Cash in the amount of $7,000 is received from the special revenue fund, in partial repayment of the loan made to that fund (transaction 8).

Cash	7,000	
Special revenue fund		7,000
(Contra entry in special revenue fund accounts.)		

It is often desired to prepare balance sheets at interim dates during the period; for the purpose of illustrating such a balance sheet, the balances in the general fund accounts after transaction 19 are shown in the summary of these accounts on pages 532 and 533.

(20) Licenses, fees, and so forth, are collected in the amount of $29,000.

Cash	29,000	
Revenues		29,000

(21) Additional vouchers are certified, as follows:

For previous encumbrances:

(a) The original estimate of the encumbrances was $4,000; reverse the memorandum entry.
(b) The invoices received agree with the estimate.

For miscellaneous expenses for which no encumbrances had previously been recorded:

(c) The invoices amount to $56,000.

(a)		
Reserve for encumbrances	4,000	
Encumbrances		4,000
(b)		
Appropriation expenditures	4,000	
Vouchers payable		4,000
(c)		
Appropriation expenditures	56,000	
Vouchers payable		56,000

(22) Warrants amounting to $55,000 are issued in payment of vouchers.

Vouchers payable	55,000	
Cash		55,000

(23) A special assessment fund (to be discussed in detail later) has been created for a local improvement; most of the cost of this improvement will be charged to property owners benefited; however, $10,000 of the cost is to be paid from the general fund, as that portion of the cost is regarded as a public benefit; of this amount,

$5,000 is to be paid during the current fiscal year. Provision for this expenditure is included in the "Other items" in the budget of the general fund.

Appropriation expenditures	5,000	
Cash		5,000
(An entry is also required in the accounts of the special assessment fund.)		

(24) A transfer of $1,000 in cash is made to the stores fund to cover the loss in that fund for the year. Provision for such expenditure was made in the "Other items" in the budget of the general fund.

Appropriation expenditures	1,000	
Cash		1,000
(Entry also required in the stores fund accounts.)		

The balances of the general ledger accounts for the general fund, after these transactions have been recorded, are shown in the summary on pages 532 and 533.

General ledger and subsidiary accounts. Before considering the adjusting and closing entries to be made at the end of the period, it is desirable to comment on the nature of certain general ledger accounts and the subsidiary accounts which support them.

The Estimated Revenues account is debited at the beginning of the period with the total estimated revenues shown by the budget. During the period actual revenues are recorded in a Revenues account. These two general ledger accounts are usually supported by a subsidiary ledger containing accounts for each class of revenue. Each subsidiary account is debited with the estimated revenue per the budget and credited with the actual revenue realized. Thus, at the end of the fiscal year, a subsidiary revenue account may have either a debit balance or a credit balance. A debit balance in any given subsidiary revenue account indicates that the estimated revenue exceeded the actual revenue; a credit balance indicates that the actual revenue exceeded the estimated amount. The sum of the balances of the subsidiary ledger accounts should equal the difference between the balances in the Estimated Revenues and Revenues accounts of the general ledger. Such difference can be either a net debit amount or a net credit amount, depending upon whether, in the aggregate, the estimated revenues exceeded the actual revenues, or vice versa.

The Appropriations account is credited with the total of the appropriations shown by the budget. Expenditures authorized by the budget are charged to the Appropriation Expenditures account. The Encumbrances account and the Reserve for Encumbrances account are memorandum accounts showing commitments made

GENERAL FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Taxes Receivable —Current	Allowance for Uncollectible Taxes—Current	Special Revenue Fund	Stores Fund	Estimated Revenues	Revenues	Vouchers Payable	Tax Anticipation Notes Payable	Appropriations	Appropriation Expenditures	Encumbrances	Reserve for Encumbrances	Unappropriated Surplus
(2) Total estimated revenues—per budget						100								100*
(3) Total appropriations—per budget										98*				98
(4) Tax levy		75	3*				72*							
(5) Tax anticipation notes sold	30								30*					
(6) Taxes collected	68	68*												
(7) Tax anticipation notes paid	20*								20					
(8) Loan to special revenue fund	10*			10										
(9) Advance to stores fund	5*				5									
(10) Materials requisitioned from stores fund					1*						1			
(11) Cash transferred to stores fund in payment of materials	1*				1									
(12) Contracts made and orders placed												20	20*	
(13) Liabilities on vouchers certified:														
(a) Encumbrances reversed												14*	14	
(b) Vouchers certified								15*			15			
(14) Warrants issued	12*							12						
(15) Proceeds from sale of equipment	2						2*							
(16) Purchase of equipment:														
(a) Vouchers certified								6*			6			
(b) Warrants issued	6*							6						
(17) Contribution to trust fund	5*										5			
(18) Transfer of cash to sinking fund	2*										2			
(19) Partial repayment of loan to special revenue fund	7			7*										
Interim balances	46	7	3*	3	5	100	74*	3*	10*	98*	29	6	6*	2*

(20) Licenses, fees, etc., collected	29						29*							
(21) Additional vouchers certified:														
For previous encumbrances:														
(a) Encumbrances reversed												4*	4	
(b) Vouchers certified								4*			4			
For expenses for which no encumbrances had been recorded:														
(c) Vouchers certified								56*			56			
(22) Warrants issued	55*							55						
(23) Payment to special assessment fund for public benefit	5*										5			
(24) Cash transferred to stores fund to cover loss	1*										1			
Balances—before closing	14	7	3*	3	5	100	103*	8*	10*	98*	95	2	2*	2*
Closing entries:														
Estimated revenues and revenues						100*	103							3*
Appropriations, expenditures, and encumbrances										98	95*	2*		1*
Balances after closing—carried to next fiscal year	14	7	3*	3	5	—	—	8*	10*	—	—	—	2*	6*

* Credit.

against appropriations. The general ledger accounts devoted to the accounting for appropriations and related expenditures are generally supported by a subsidiary ledger containing accounts with each department (general administration, police, public welfare, and so forth) for which appropriations were made in the budget. The following illustration shows the money columns that should be provided; proper columns for date, reference, name, and so forth, should appear at the left.

General Fund Appropriation for Police Department

	Encumbrances			Appropriation Expenditures		
	Debit	Credit	Balance Dr.—Cr.*	Item	Cumulative	Unencumbered Balance
Budget appropriation						$25,000
Orders placed.......	$1,000		$1,000			24,000
Vouchers issued.....		$800	200	$ 850	$ 850	23,950
Vouchers issued.....				3,000	3,850	20,950

The subsidiary account illustrated shows an unencumbered balance of $20,950. This balance is less than the appropriation because of outstanding encumbrances of $200 and expenditures of $3,850. The debit balance in the Appropriation Expenditures account in the general ledger should agree with the total of the last amounts shown in the Cumulative columns of all of the subsidiary accounts applicable to the fund; and the debit balance in the Encumbrances account in the general ledger should agree with the sum of the debit balances in the Encumbrances section of the subsidiary accounts.

Each departmental appropriations account in the subsidiary ledger is in turn supported by an account in an expenditure analysis ledger, in which the charges against appropriations are classified according to the object of the expenditure. For example, the subaccount with police department appropriations might be supported by the following expenditure account:

General Fund—Police Department
Analysis of Expenditures

	Salaries	Office Expense	Supplies	Etc.	Etc.	Total
January (summary)...	$3,000	$300	$550			$3,850

It will be noted that the total of the debits, $3,850, agrees with the total debits in the Appropriation Expenditures account for the police department. These accounts in the expenditure analysis ledger furnish the information for the periodical statements of expenditures.

The nature of the Tax Anticipation Notes Payable and the Vouchers Payable accounts is obvious; they should be supported by subsidiary registers.

The Unappropriated Surplus account balance shows the (estimated during the period, actual at the end of the period) difference between revenues and appropriations.

Accounts used to show budgetary estimates of revenues or authorized appropriations are called *budgetary accounts.* In contrast, accounts used to show the results of the transactions that have occurred affecting the governmental unit or fund are called *proprietary accounts.* The budgetary accounts are useful in serving as control devices in that comparisons between budgeted amounts and actual amounts are readily available.

Closing the accounts. At the end of the fiscal year, entries would be made closing the budgetary accounts and the actual revenue and expenditure accounts. The entry to close the Estimated Revenues and Revenues accounts is as follows:

Revenues	103,000	
Estimated revenues		100,000
Unappropriated surplus		3,000

Authorized appropriations not expended or encumbered at the end of the fiscal year usually lapse; therefore, the unencumbered balance of authorized appropriations is transferred to Unappropriated Surplus by the following closing entry:

Appropriations	98,000	
Appropriation expenditures		95,000
Encumbrances		2,000
Unappropriated surplus		1,000

The summary on pages 532 and 533 shows the results of the closing entries and the balances that are carried forward to the succeeding fiscal year. Observe that the final balance in the Unappropriated Surplus account is $6,000, which equals the difference between the actual revenues of $103,000 and the $97,000 total of the appropriation expenditures and encumbrances.

Also note that the balance in the Reserve for Encumbrances account is carried forward to the next fiscal period. In effect, this account will be charged whenever the materials or services on order or under contract at year end are received and the fund becomes liable therefor. It would be incorrect to charge such amounts to next year's Appropriation Expenditures account, since the charges relate to an appropriation authorized in a previous year.

Special Revenue Fund

Transactions. The precise nature of this illustrative fund is of no particular significance; the fund should be regarded as applicable to some given operating activity, such as a park or a library. The

reference numbers appearing below in other than numerical sequence refer to transactions already mentioned in connection with the general fund. The summary of the general ledger accounts for the special revenue fund appears on page 538.

(25) The total estimated revenues for the special revenue fund for the fiscal year, as shown by the budget on page 525, are $30,000.

Estimated revenues	30,000	
Unappropriated surplus		30,000

(26) The total appropriations shown by the budget are $29,000.

Unappropriated surplus	29,000	
Appropriations		29,000

(27) The tax levy for special revenue fund purposes is $25,000; it is estimated that $1,000 of this amount will prove to be uncollectible.

Taxes receivable—Current	25,000	
Allowance for uncollectible taxes—Current		1,000
Revenues		24,000

(8) A loan of $10,000 is received from the general fund.

Cash	10,000	
General fund		10,000
(Contra entry in general fund accounts.)		

(28) Tax collections amount to $22,000.

Cash	22,000	
Taxes receivable—Current		22,000

(29) Materials that cost $2,000 are requisitioned from the stores fund.

Appropriation expenditures	2,000	
Stores fund		2,000
(Contra entry will be made in stores fund accounts.)		

(30) Cash is transferred to the stores fund in payment for the materials.

Stores fund	2,000	
Cash		2,000
(Contra entry will be made in stores fund accounts.)		

(31) Contracts are made and orders are placed in an estimated amount of $12,000.

Encumbrances	12,000	
Reserve for encumbrances		12,000

(32) A portion of the items ordered in (31) is received. The amount billed is $9,000; the amount encumbered therefor was $10,000.

(a)

Reserve for encumbrances	10,000	
Encumbrances		10,000

(b)

Appropriation expenditures	9,000	
Vouchers payable		9,000

(33) Warrants are issued in the amount of $7,000 in payment of vouchers.

Vouchers payable	7,000	
Cash		7,000

(19) A transfer of $7,000 is made to the general fund in partial repayment of the loan.

General fund	7,000	
Cash		7,000
(Contra entry in general fund accounts.)		

The balances in the accounts at this point are shown in the summary and are used in the illustration of a balance sheet prepared during the fiscal period.

(34) Licenses, fees, and so forth, are collected in the amount of $5,000.

Cash	5,000	
Revenues		5,000

(35) Additional vouchers are certified, as follows:

For previous encumbrances:

(a) Estimated encumbrances, $1,000.
(b) Vouchers certified, $1,000.

For miscellaneous expenses for which no encumbrances had previously been recorded:

(c) The invoices amount to $15,000.

(a)

Reserve for encumbrances	1,000	
Encumbrances		1,000

(b)

Appropriation expenditures	1,000	
Vouchers payable		1,000

(c)

Appropriation expenditures	15,000	
Vouchers payable		15,000

(36) Warrants are issued in payment of vouchers in the amount of $14,000.

Vouchers payable	14,000	
Cash		14,000

SPECIAL REVENUE FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Taxes Receivable —Current	Allowance for Uncollectible Taxes—Current	Estimated Revenues	Revenues	Vouchers Payable	General Fund	Stores Fund	Appropriations	Appropriation Expenditures	Encumbrances	Reserve for Encumbrances	Unappropriated Surplus
(25) Total estimated revenues—per budget				30									30*
(26) Total appropriations—per budget									29*				29
(27) Tax levy		25	1*		24*								
(8) Loan from general fund	10						10*						
(28) Taxes collected	22	22*											
(29) Materials requisitioned from stores fund								2*		2			
(30) Cash transferred to stores fund in payment of materials	2*							2					
(31) Contracts made and orders placed											12	12*	
(32) Liabilities on vouchers certified:													
(a) Encumbrances reversed											10*	10	
(b) Vouchers certified						9*				9			
(33) Warrants issued	7*					7							
(19) Partial repayment of loan from general fund	7*						7						
Interim balances	16	3	1*	30	24*	2*	3*	—	29*	11	2	2*	1*
(34) Licenses, fees, etc., collected	5				5*								
(35) Additional vouchers certified:													
For previous encumbrances:													
(a) Encumbrances reversed											1*	1	
(b) Vouchers certified						1*				1			
For expenses for which no encumbrances had been recorded:													
(c) Vouchers certified						15*				15			
(36) Warrants issued	14*					14							
Balances—before closing	7	3	1*	30	29*	4*	3*	—	29*	27	1	1*	1*
Closing entries:													
Estimated revenues and revenues				30*	29								1
Appropriations, expenditures, and encumbrances									29	27*	1*		1*
Balances after closing—carried to next fiscal year	7	3	1*	—	—	4*	3*	—	—	—	—	1*	1*

* Credit

Closing entries. The closing procedure is the same as illustrated in connection with the general fund.

Revenues	29,000	
Unappropriated surplus	1,000	
Estimated revenues		30,000
Appropriations	29,000	
Appropriation expenditures		27,000
Encumbrances		1,000
Unappropriated surplus		1,000

The summary on page 538 shows the results of the closing entries and the balances that are carried forward to the succeeding fiscal year.

Stores Fund

Working capital funds. The stores fund illustrated here is an example of a working capital fund. A working capital fund is set up to finance and carry on certain internal service activities for the convenience of the several departments of a governmental unit. Examples include central garages, printing shops, central heating plants, equipment pools, and central purchasing and storage of supplies (a stores fund). Thus, a governmental unit may have several working capital funds. Such a fund is established by providing it with a certain sum of money, which may be obtained by a nonrepayable appropriation from the general fund, by the sale of bonds, or, as in the case being illustrated, by a repayable advance from the general fund.

Since a working capital fund is intended to be self-supporting, the fund should be accounted for as though it were a private enterprise, with such conventional procedures as accounting for accruals, inventories, and depreciation. However, the objective is to break even. Actually, a profit or a loss may be realized in any given fiscal year. In some cases, it is the practice to have the general fund cover losses and be the recipient of any surplus that may develop from the operations of the fund.

The receipts and disbursements of a working capital fund generally are not subject to reasonably precise estimates. Furthermore, its disbursements are not made through the process of appropriations and encumbrances. For these reasons, budgetary accounts are not a part of the accounting for working capital funds.

Transactions. It is assumed here that a fund is established to centralize the purchasing of supplies which are to be issued to the other funds upon requisition. The stores should be issued or billed at cost, including a prorated share of the expense of operation.

(9) $5,000 is received from the general fund as an advance to provide working capital for stores fund operations.

Cash	5,000	
General fund		5,000
(Contra entry in the general fund accounts.)		

(37) Orders amounting to $6,000 are issued for the purchase of stores.

No entry. Encumbrance accounting is not required in working capital funds.

(38) A portion of the stores ordered in (37), in the amount of $4,000, is received.

Stores	4,000	
Vouchers payable		4,000

(10) Stores in the amount of $1,000 are issued to the general fund on requisition.

General fund	1,000	
Stores		1,000
(Contra entry in general fund accounts.)		

(29) Stores in the amount of $2,000 are issued to the special revenue fund on requisition.

Special revenue fund	2,000	
Stores		2,000
(Contra entry in special revenue fund accounts.)		

(11) Cash is received from the general fund in payment for the materials.

Cash	1,000	
General fund		1,000
(Contra entry in general fund accounts.)		

(30) Cash is received from the special revenue fund in payment for the materials.

Cash	2,000	
Special revenue fund		2,000
(Contra entry in special revenue fund accounts.)		

The balances in the accounts at this point are shown in the summary on page 541; they are used to illustrate a balance sheet prepared during the fiscal period.

(39) Bills amounting to $1,000 are received for freight, handling, and other expenses. This amount should be considered as part of the cost of the stores.

Stores	1,000	
Vouchers payable		1,000

(40) Additional stores costing $7,000 are purchased and received.

Stores	7,000	
Vouchers payable		7,000

(41) A physical inventory shows that the cost of the stores on hand at the end of the fiscal year is $1,000 less than the balance of the Stores account.

Surplus	1,000	
Stores		1,000

(24) The working capital of the stores fund was impaired by the inventory shortage, and cash is received from the general fund to replenish it.

Cash	1,000	
Surplus		1,000
(Contra entry in general fund accounts.)		

The balances in the stores fund accounts, after these transactions have been recorded, are shown in the following summary. In this illustrative case, no closing entries are needed; all balances are carried forward to the next fiscal period. If use had been made of revenue and expense accounts, they would have been closed in the manner followed by a private enterprise.

STORES FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Special Revenue Fund	Stores	Vouchers Payable	General Fund	Surplus
(9) Cash advance received from general fund	5				5*	
(38) Liability for stores received			4	4*		
(10) Stores issued to general fund			1*		1	
(29) Stores issued to special revenue fund		2	2*			
(11) Cash from general fund for stores	1				1*	
(30) Cash from special revenue fund for stores	2	2*				
Interim balances	8	—	1	4*	5*	
(39) Freight, handling, and other expenses			1	1*		
(40) Purchases			7	7*		
(41) Adjustment of Stores account to physical inventory			1*			1
(24) Cash from general fund to cover deficit	1					1*
Final balances—carried to next fiscal year	9	—	8	12*	5*	—

Bond Fund

Transactions. The accounts of a bond fund are set up to account for the disposition of the proceeds of a bond issue. Bonds may be issued for such purposes as the construction or purchase of improvements or the refunding of outstanding bond issues. The bonds are not shown as liabilities of the bond fund, because they are not to be paid from the proceeds of the bond issue; any property acquired with the proceeds is not shown as an asset of the bond fund, because it is not available for further expenditure by the fund. The fixed assets acquired and the bond liability are shown in the property and general bonded debt group of accounts.

(42) Bonds of a par value of $100,000 are authorized.

Bonds authorized—Unissued	100,000	
Unappropriated balance		100,000

(43) Bonds of a par value of $75,000 are issued for $78,000. Bond premium in effect represents an adjustment of the interest rate. For that reason, cash equal to the premium should be transferred to the fund which is going to pay the interest, and the premium should be set up and amortized so that true interest expense can be reported. In practice, however, the premium is commonly regarded merely as an addition to the amount available for expenditure by the bond fund, and the effect upon interest expense is ignored. The latter treatment is used in this illustration.

Cash	78,000	
Bonds authorized—Unissued		75,000
Unappropriated balance		3,000
(Note companion entry in the property and general bonded debt group of accounts.)		

(44) A total of $99,000 is appropriated for expenditure for the purpose for which the bonds were issued.

Unappropriated balance	99,000	
Appropriations		99,000

(45) A construction contract is signed; the estimated cost is $90,000.

Encumbrances	90,000	
Reserve for encumbrances		90,000

(46) As the work progresses, progress payments are required under the contract. At this point, it is assumed that the contract is one-half completed.

(a)

Reserve for encumbrances	45,000	
Encumbrances		45,000

(b)

Appropriation expenditures	45,000	
Vouchers payable		45,000

(47) Warrants are issued in payment of $40,000 of the vouchers.

Vouchers payable	40,000	
Cash		40,000

The balances in the accounts at this point are shown in the summary on page 544; they are used in the illustrative interim balance sheet.

(48) The remaining bonds, of a par value of $25,000, are issued for $24,000.

Cash	24,000	
Unappropriated balance	1,000	
Bonds authorized—Unissued		25,000
(Note companion entry in the property and general bonded debt group of accounts.)		

(49) The construction contract is completed.

(a)

Reserve for encumbrances	45,000	
Encumbrances		45,000

(b)

Appropriation expenditures	45,000	
Vouchers payable		45,000

(50) Vouchers for other expenses totaling $10,000 are certified.

Appropriation expenditures	10,000	
Vouchers payable		10,000

(51) Warrants are issued in payment of all certified vouchers.

Vouchers payable	60,000	
Cash		60,000

The balances in the general ledger accounts of this fund, after the completion of the contract, are shown in the summary on page 544.

General ledger and subsidiary accounts. The Appropriations, Encumbrances, and Reserve for Encumbrances accounts are similar to those discussed under the general fund, and are supported by similar subsidiary records. The Unappropriated Balance account is credited with the par of the bonds authorized, and debited and credited with items which decrease or increase the amount available for expenditure; it is debited with the appropriations; its balance, therefore, represents the unappropriated resources of the fund.

Closing the accounts. As shown by the summary, the

BOND FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Bonds Authorized —Unissued	Vouchers Payable	Appropriations	Appropriation Expenditures	Encumbrances	Reserve for Encumbrances	Unappropriated Balance
(42) Bonds authorized		100						100*
(43) Bonds issued at a premium	78	75*						3*
(44) Appropriation to carry out purpose of fund				99*				99
(45) Contract signed						90	90*	
(46) Vouchers certified for progress payments:								
(a) Encumbrance reversed						45*	45	
(b) Vouchers certified			45*		45			
(47) Warrants issued	40*		40					
Interim balances	38	25	5*	99*	45	45	45*	4*
(48) Remaining bonds issued at a discount	24	25*						1
(49) Contract completed:								
(a) Encumbrance reversed						45*	45	
(b) Vouchers certified			45*		45			
(50) Vouchers certified for other expenses			10*		10			
(51) Warrants issued for all vouchers	60*		60					
Balances—before closing	2	—	—	99*	100	—	—	3*
Closing entries:								
Appropriations and related expenditures				99	100*			1
(52) Transfer remaining cash to sinking fund	2*							2
Balances	—	—	—	—	—	—	—	—

* Credit.

appropriation expenditures were in excess of the appropriations by $1,000. The Appropriations and the Appropriation Expenditures accounts are closed; Unappropriated Balance is debited for the $1,000 excess expenditure.

Appropriations	99,000	
Unappropriated balance	1,000	
Appropriation expenditures		100,000

(52) The Cash account now has a debit balance of $2,000, and the Unappropriated Balance account has a credit balance of the same amount. The unexpended cash is transferred to the sinking fund for use in the future for the retirement of the bonds, and the accounts of the bond fund are closed.

Unappropriated balance	2,000	
Cash		2,000
(Contra entry in sinking fund accounts.)		

The public improvement for which the bonds were issued and on which $100,000 was spent will be taken up in the accounts of the property and general bonded debt group.

Sinking Fund

Introductory note. Whenever resources are accumulated to meet future bond maturities, the accounting for such resources is handled through a group of accounts known as a *sinking fund.* (It is not customary to make disbursements for bond interest through the sinking fund.) The assets of the sinking fund are derived from two sources: (1) contributions, which can come from the general fund or from a special tax levy, and (2) earnings on sinking fund investments.

Transactions. As a general rule, the accumulation of resources will be made according to a plan. An entry is made at the beginning of each year setting up the required contribution and the required or expected earnings under the assumption that the plan will be carried out.

The illustration relates to the $100,000 of bonds dealt with in the preceding discussion of the bond fund. It is assumed that an annual contribution of $18,000 is to be made to the sinking fund.

(53) The required annual contribution and the expected earnings for the year are set up.

Required contributions	18,000	
Required earnings	1,000	
Reserve for retirement of sinking fund bonds		19,000

(18) A portion of the requirements is met by a transfer of $2,000 from the general fund.

Cash	2,000	
Contribution revenues		2,000
(Contra entry in general fund accounts.)		

(54) A special tax levy of $16,000 is authorized for the sinking fund. (It is assumed that the taxes are fully collectible.)

Taxes receivable—Current	16,000	
Contribution revenues		16,000

(55) The taxes are collected in full.

Cash	16,000	
Taxes receivable—Current		16,000

(56) Securities are purchased for $15,000. If securities are purchased with the intention of holding them until maturity, any premium or discount may be amortized.

Investments	15,000	
Cash		15,000

(57) Interest in the amount of $1,000 is collected on sinking fund investments.

Cash	1,000	
Earnings		1,000

The balances in the accounts at this point are shown in the summary, and appear in the illustrative interim balance sheet.

(52) The unexpended cash in the bond fund is transferred to the sinking fund.

Cash	2,000	
Contribution revenues		2,000
(Companion entry in bond fund accounts.)		

(58) In order to make the illustration more complete, it is assumed that $5,000 of the bonds mature.

Reserve for retirement of sinking fund bonds	5,000	
Matured bonds payable		5,000
(Since the bond liability is shown in the property and general bonded debt group of accounts, an entry for the retirement of the bonds is also required in that group of accounts.)		

(59) The matured bonds are paid.

Matured bonds payable	5,000	
Cash		5,000

The balances in the accounts at the end of the fiscal year, before closing entries are made, are shown in the summary on page 547.

SINKING FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Taxes Receivable —Current	Investments	Required Earnings	Earnings	Matured Bonds Payable	Required Contributions	Contribution Revenues	Reserve for Retirement of Sinking Fund Bonds	Unappropriated Surplus
(53) Requirements for the fiscal year				1			18		19*	
(18) Cash from general fund	2							2*		
(54) Tax levy		16						16*		
(55) Taxes collected	16	16*								
(56) Securities purchased	15*		15							
(57) Interest earnings	1				1*		—			
Interim balances	4	—	15	1	1*	—	18	18*	19*	—
(52) Cash transferred from bond fund	2							2*		
(58) Bonds matured						5*			5	
(59) Bonds paid	5*					5				
Balances—before closing	1	—	15	1	1*	—	18	20*	14*	—
Closing entries:										
Required and actual contributions							18*	20		2*
Required and actual earnings				1*	1					
Balances after closing—carried to next fiscal year	1	—	15	—	—	—	—	—	14*	2*

* Credit.

General ledger and subsidiary accounts. If the debit balance in the Required Contributions account exceeds the credit balance in the Contribution Revenues account, it follows that resources equal to the planned requirements for the period have not as yet been received; an opposite relationship would exist if the resources received exceeded the required contributions. A similar analysis can be made with the Required Earnings and Earnings accounts.

If resources are being accumulated for several bond issues and the investments are pooled, suitable subsidiary records will be needed.

Closing entries. At the close of the fiscal year, the accounts showing requirements and actual contributions and earnings are closed. An excess of contributions or earnings is carried to Unappropriated Surplus.

Contribution revenues	20,000	
Required contributions		18,000
Unappropriated surplus		2,000
Earnings	1,000	
Required earnings		1,000

Special Assessment Fund

Transactions. Special assessment funds, frequently found in the accounts of municipalities, are established to account for the financing of local improvements or special services. Authorization of the project by the legislative body is a necessary first step. Initial cash requirements, unless nominal, are commonly met by the issuance of local improvement bonds. The proceeds are expended for the improvement or to initiate the special service; the cost thereof is charged back to the property owners, or in part to the city as a public benefit; and the bonds and interest are paid from the collections from the property owners and the city. Since the bonds are retired from collections received by the fund, they are shown as a liability of the fund.

(60) A $50,000 expenditure for a local improvement is authorized.

Improvements authorized	50,000	
Appropriations		50,000

(61) Bonds of a par value of $50,000 are authorized.

Bonds authorized—Unissued	50,000	
Bonds payable		50,000

(62) Bonds of a par value of $40,000 are issued for $41,000; the premium realized increases the available balance of the fund.

Cash*	41,000	
Bonds authorized—Unissued		40,000
Unappropriated surplus		1,000

(63) A contract for the improvement is signed; the estimated cost is $45,000.

Encumbrances	45,000	
Reserve for encumbrances		45,000

(64) Vouchers for miscellaneous costs and expenses not covered by the above contract, totaling $5,000, are certified.

Construction expenditures	5,000	
Vouchers payable		5,000

(65) Warrants for $3,000 are issued against the vouchers.

Vouchers payable	3,000	
Cash		3,000

The balances in the accounts at this point are shown in the summary on page 551, and appear in the interim balance sheet.

(66) The remaining bonds are sold at par.

Cash	10,000	
Bonds authorized—Unissued		10,000

(67) Vouchers in the amount of $45,000 are certified for the completed contract.

(a)

Reserve for encumbrances	45,000	
Encumbrances		45,000

(b)

Construction expenditures	45,000	
Vouchers payable		45,000

(68) Warrants are issued for all certified vouchers.

Vouchers payable	47,000	
Cash		47,000

(69) Since the project is now completed and all expenditures for construction have been made, it is considered good practice to close the Construction Expenditures and Appropriations accounts; any difference between these two accounts would be carried to Un-

* In special assessment fund accounting, it is rather common practice to maintain three separate cash accounts, as follows: for cash expendable on construction, for cash that may be used for the payment of interest, and for cash that may be used to retire outstanding bonds. In the interest of avoiding distinctions believed to be relatively unimportant, only one cash account is used here.

appropriated Surplus. A credit balance in Unappropriated Surplus may be used to cover any losses on, or abatements of, assessments that may arise in the future.

Appropriations	50,000	
Construction expenditures		50,000
(There will also be an accompanying entry in the property and general bonded debt accounts to record the asset addition.)		

(70) The expenditures from the fund totaled $50,000; of this amount, $40,000 is assessed against property owners and $10,000 is regarded as a public benefit.

Assessments receivable—(Current and/or Deferred, as indicated by the facts)	40,000	
City's share of cost	10,000	
Improvements authorized		50,000

(23) A collection of $5,000 is received from the general fund to apply against the amount assessed as a public benefit.

Cash	5,000	
City's share of cost		5,000
(Contra entry in general fund accounts.)		

(71) An assessment installment of $15,000, with $2,000 interest thereon, is collected.

Cash	17,000	
Assessments receivable		15,000
Interest revenue		2,000

(72) Bond interest totaling $2,000 is paid.

Interest expense	2,000	
Cash		2,000

(73) Bonds of a par value of $5,000 are paid.

Bonds payable	5,000	
Cash		5,000

Closing entries. The Construction Expenditures and Appropriations accounts are closed when the project is completed. Interest Revenue and Interest Expense accounts are closed at the end of each fiscal period. Any excess of interest revenue over expense would be carried to an unappropriated surplus account, with the source of such surplus generally being disclosed thus: Unappropriated Surplus—Interest.

Interest revenue	2,000	
Interest expense		2,000

The account balances carried over to the next fiscal period are shown in the summary on page 552.

SPECIAL ASSESSMENT FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Assessments Receivable	City's Share of Cost	Improvements Authorized	Vouchers Payable	Bonds Authorized —Unissued	Bonds Payable	Appropriations	Construction Expenditures	Encumbrances	Reserve for Encumbrances	Unappropriated Surplus	Interest Revenue	Interest Expense
(60) Project approved				50				50*						
(61) Bonds authorized						50	50*							
(62) Bonds issued at a premium	41					40*						1*		
(63) Contract signed										45	45*			
(64) Vouchers certified					5*				5					
(65) Warrants issued	3*				3									
Interim balances	38			50	2*	10	50*	50*	5	45	45*	1*		
(66) Remaining bonds issued at par	10					10*								
(67) Vouchers certified for completed contract:														
(a) Encumbrance reversed										45*	45			
(b) Vouchers certified					45*				45					
(68) Warrants issued	47*				47									
(69) Project completed—appropriation accounts closed								50	50*					
(70) Assessments made		40	10	50*										
(23) Collection from general fund	5		5*											
(71) Assessment and interest collected	17	15*											2*	
(72) Bond interest paid	2*													2
(73) Bonds retired	5*						5							
Balances—before closing	16	25	5	—	—	—	45*	—	—	—	—	1*	2*	2
Closing entries:														
Interest revenue and expense													2	2*
Balances after closing—carried to next fiscal year	16	25	5	—	—	—	45*	—	—	—	—	1*	—	—

* Credit.

General ledger and subsidiary accounts. It is believed that the nature of all general ledger accounts illustrated is obvious. It should be understood that separate subsidiary accounts should be maintained with each special assessment fund, so that there may be no danger of confusion and consequent possible misapplication of funds.

If, after a particular fund has been closed by the final payment of the bonds, a balance remains in the surplus account, theoretical propriety would require a distribution of the residue of the fund to the property owners and to the general fund in proportion to the assessment and public benefit charges paid by them. Since such a distribution is usually impracticable, the excess is generally transferred to other assessment funds or to the general fund.

Trust Fund

Transactions. Endowment funds, pension funds, and other trust funds may be received by gift or by appropriation of public funds. Usually only the income is expendable.* Therefore, a distinction must be made in the accounts between the permanent balance of a trust fund and its expendable balance.

(74) A gift of $45,000 is received in cash for the creation of a special-purpose trust fund. The gift is conditional upon the appropriation of an additional $5,000 from the public treasury, and only the income from the fund is to be expended.

Cash	45,000	
Permanent balance		45,000

(17) Cash in the amount of $5,000 is transferred from the general fund.

Cash	5,000	
Permanent balance		5,000
(Contra entry in general fund accounts.)		

(75) Securities costing $45,000 are purchased for the fund. Vouchers are certified and warrants are issued.

(a)

Investments	45,000	
Vouchers payable		45,000

(b)

Vouchers payable	45,000	
Cash		45,000

* As already stated, trust funds may be expendable both as to principal and as to income. This illustration deals with a trust fund which is expendable as to income only.

If securities are purchased at a premium for a fund of which only the income is expendable, the premium should be amortized against income.

(76) Income of $3,000 is collected.

Cash	3,000	
Expendable balance		3,000

(77) Expenditures of $2,000 are made for the purpose for which the fund was created.

(a)

Expendable balance	2,000	
Vouchers payable		2,000

(b)

Vouchers payable	2,000	
Cash		2,000

The summary of the general ledger accounts is shown below.

TRUST FUND
Summary of General Ledger Accounts
(000 Omitted)

	Cash	Investments	Vouchers Payable	Permanent Balance	Expendable Balance
(74) Gift received	45			45*	
(17) Contribution from general fund	5			5*	
(75) Purchase of securities:					
(a) Vouchers certified		45	45*		
(b) Warrants issued	45*		45		
(76) Income collected	3				3*
(77) Expenditures:					
(a) Vouchers certified			2*		2
(b) Warrants issued	2*		2		
Balances at a date during (and also at the end of) the period	6	45		50*	1*

* Credit.

General ledger and subsidiary accounts. The nature of all general ledger accounts in the trust fund group is obvious. If there are several trust funds, one group of general ledger accounts will be sufficient, but all of these general ledger accounts should be supported by similar subsidiary accounts for each fund.

Property and General Bonded Debt

Transactions. The property, fixed assets, or plant capital group of accounts shows the cost of fixed assets owned and not appertaining to any fund; the bonded debt which is not the obliga-

tion of any other fund; and the excess of such assets over such liabilities, or the net investment in general fixed assets.

Fixed assets are customarily carried at cost, and are not subjected to depreciation charges, because: (a) No income statement is prepared (except for publicly owned utilities, such as water or light plants operated by a city; fixed assets applicable to such plants should be depreciated and are carried on the books of the utility). (b) There would be no justification for the charge unless it were desired to create a replacement fund by including a provision therefor in the budget; but this would be undesirable because fixed assets costing significant sums of money are usually purchased from the proceeds of bond issues, and are paid for by assessments subsequent to acquisition. The inclusion of both the sinking fund requirements and a depreciation fund requirement in the same budget would involve a double charge upon the same taxpayers during the life of the bond issue.

(1) The summary on page 555 shows the condition at the beginning of the period. It is assumed that the governmental unit has property costing $1,000,000.

(15) Some of the equipment owned at the beginning of the year, which cost $10,000, is sold for $2,000.

Investment in general fixed assets	10,000	
Property		10,000
(The proceeds of the sale, $2,000, were taken up in the general fund. The apparent loss of $8,000 is nowhere recorded.)		

(16) Equipment costing $6,000 was purchased with general fund cash.

Property	6,000	
Investment in general fixed assets		6,000
(Contra entry in general fund accounts.)		

(43) Bonds with a par value of $75,000 are issued and the proceeds are being devoted to construction work.

Improvements in progress	75,000	
Bonds payable		75,000
(Contra entry in bond fund accounts.)		

(48) Bonds with a par value of $25,000 are issued and the proceeds are being devoted to construction work.

Improvements in progress	25,000	
Bonds payable		25,000
(Contra entry in bond fund accounts.)		

The balances in the accounts at this point show the condition at the date of the illustrative interim balance sheet.

(78) The public improvement for which bonds were issued through the bond fund has been completed. Its cost, as shown by the accounts of the bond fund, was $100,000.

Property	100,000	
Improvements in progress		100,000

(69) The special assessment project has been completed. Its cost, as shown by the accounts of the special assessment fund, was $50,000.

Property	50,000	
Investment in general fixed assets		50,000

(59) Bonds of a par value of $5,000 have been retired by payments from the sinking fund.

Bonds payable	5,000	
Investment in general fixed assets		5,000
(Accompanying entry in sinking fund accounts.)		

The balances at the end of the period are shown in the following summary.

PROPERTY AND GENERAL BONDED DEBT
Summary of General Ledger Accounts
(000 Omitted)

	Property	Improvements in Progress	Bonds Payable	Investment in General Fixed Assets
(1) Opening balance	1,000			1,000*
(15) Cost of property disposed of	10*			10
(16) Cost of equipment purchased by general fund	6			6*
(43) Sale of public improvement bonds		75	75*	
(48) Sale of public improvement bonds		25	25*	
Interim balances	996	100	100*	996*
(78) Total cost of improvement financed through bond fund	100	100*		
(69) Total cost of improvement financed through special assessments	50			50*
(59) Bonds retired by use of sinking fund			5	5*
Balances at end of fiscal year	1,146	—	95*	1,051*

* Credit.

General ledger and subsidiary accounts. Complete subsidiary records should be maintained showing the cost of each unit of property, and the amount of liability on each bond issue.

In the illustration, a single Property account was used for all types of assets. It is acceptable, and desirable, to use several asset accounts in order to permit the financial reports to show assets by

broad categories, such as equipment, land, and structures. Similarly, it is acceptable, and desirable, to subdivide the Investment in General Fixed Assets account in order to reveal the source of funds used in acquiring the general fixed assets. As subdivided, the general ledger might have the following accounts:

Investment in General Fixed Assets—From Special Assessments
Investment in General Fixed Assets—From Current Revenues
Investment in General Fixed Assets—From Gifts
Investment in General Fixed Assets—From Bonds

Statements

So many different statements may be prepared to show the operation and condition of the various funds that it is impracticable to attempt to do more than mention and illustrate some of the more important statements.

Statement of realization of revenues. From time to time during, as well as at the end of, the period, it is desirable to prepare a statement showing the relation of revenue accruals to revenue estimates, and of revenue collections to revenue accruals. Such a statement may be prepared in the form illustrated below.

Statement of Realization of Revenues
From.......... To..........

	Estimate Per Budget	Accrued			Not Accrued	Collected	Not Collected
		Total	Allowance	Net			
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
General Fund:	Amounts shown by debits in subsidiary revenue ledger accounts.	Taxes, from debit to Taxes Receivable in general ledger; other amounts from credits to accounts in subsidiary revenue ledger.	Amount shown by credit to allowance account in general ledger.	(b)–(c).	(a)–(d).	Shown by cash records.	(d)–(f).
Taxes.......							
Licenses.....							
Etc..........							
Total.....							
Special Fund:							
Taxes.......							
Licenses.....							
Etc..........							
Total.....							

Statement of appropriations. Departmental executive officers should be kept informed of the status of appropriations for their departments. This can be most easily accomplished by

providing them at intervals with copies of the departmental subsidiary appropriation accounts (general administration, police department, and so forth; see page 534). A summary may be prepared in the form illustrated below.

Summary of Appropriations
From.......... To..........

	Appropriations (a)	Expenditures (b)	Unexpended Balance (c)	Encumbrances (d)	Unencumbered Balance (e)
General Fund:					
General administration....					
Police department........					
Etc....................					
Total................					
Special Fund:					
General administration....					
Etc....................					
Total................					
	Amounts shown in subsidiary appropriation ledger. (See page 534.)	Amounts shown in subsidiary appropriation ledger. (See page 534.)	(a)–(b).	Balances shown in Encumbrances section of subsidiary appropriation ledger accounts. (See page 534.)	(c)–(d).

Balance sheets. A balance sheet may be prepared for each fund and for the property and general bonded debt accounts. The illustration on pages 558, 559, and 560 shows a combined balance sheet prepared at a date during the period. The illustration on pages 561 and 562 shows the account balances at the end of the period. Either form illustrated could be used for either an interim or a final balance sheet.

The illustrations do not show the treatment of a funded deficit in a revenue fund. If it becomes necessary to issue bonds because of an accumulated deficit, the entries are: (1) debit Cash, credit Revenue Bonds; and (2) debit Funded Deficit, credit Unappropriated Surplus. The bonds should be shown as a liability of the revenue fund, since they are payable from revenues to be raised by the fund. The condition should be shown in the balance sheet somewhat as follows:

Cash.............	$30,000		Vouchers payable........	$35,000	
Taxes receivable...	50,000		Reserve for encumbrances	40,000	
			Unappropriated surplus..	5,000	
Subtotal........	$80,000		Subtotal..............	$80,000	
Funded deficit....	15,000	$95,000	Revenue bonds..........	15,000	$95,000

A GOVERNMENTAL UNIT
Combined Balance Sheet
All Funds
(At Any Date During the Fiscal Year)

Assets

General Fund:			
Cash		$ 46,000	
Taxes receivable—Current	$ 7,000		
Less allowance for uncollectible taxes—Current	3,000	4,000	
Due from other funds:			
Special revenue fund	$ 3,000		
Stores fund	5,000	8,000	
Estimated revenues	$100,000		
Less revenues	74,000	26,000	$ 84,000
Special Revenue Fund:			
Cash		$ 16,000	
Taxes receivable—Current	$ 3,000		
Less allowance for uncollectible taxes—Current	1,000	2,000	
Estimated revenues	$ 30,000		
Less revenues	24,000	6,000	
			24,000
Stores Fund:			
Cash		$ 8,000	
Stores		1,000	
			9,000

Liabilities, Reserves, Balances, and Surplus

General Fund:				
Vouchers payable		$ 3,000		
Tax anticipation notes payable		10,000	$ 13,000	
Appropriations		$98,000		
Less:				
Appropriation expenditures	$29,000			
Encumbrances	6,000	35,000	63,000	
Reserve for encumbrances			6,000	
Unappropriated surplus			2,000	$ 84,000
Special Revenue Fund:				
Vouchers payable		$ 2,000		
Due to other funds:				
General fund		3,000	$ 5,000	
Appropriations		$29,000		
Less:				
Appropriation expenditures	$11,000			
Encumbrances	2,000	13,000	16,000	
Reserve for encumbrances			2,000	
Unappropriated surplus			1,000	24,000
Stores Fund:				
Vouchers payable			$ 4,000	
Due to other funds:				
General fund			5,000	9,000

Bond Fund:			
Cash		$ 38,000	
Bonds authorized—Unissued		25,000	
			63,000
Sinking Fund:			
Cash		$ 4,000	
Investments		15,000	
Required contributions	$ 18,000		
Less contribution revenues	18,000		
Required earnings	$ 1,000		
Less earnings	1,000		
			19,000
Special Assessment Fund:			
Cash		$ 38,000	
Improvements authorized		50,000	
			88,000

Bond Fund:				
Vouchers payable			$ 5,000	
Appropriations		$99,000		
Less:				
Appropriation expenditures	$45,000			
Encumbrances	45,000	90,000	9,000	
Reserve for encumbrances			45,000	
Unappropriated balance			4,000	63,000
Sinking Fund:				
Reserve for retirement of sinking fund bonds			$ 19,000	
				19,000
Special Assessment Fund:				
Vouchers payable			$ 2,000	
Bonds payable		$50,000		
Less unissued bonds		10,000	40,000	
Appropriations		$50,000		
Less:				
Construction expenditures	$ 5,000			
Encumbrances	45,000	50,000		
Reserve for encumbrances			45,000	
Unappropriated surplus			1,000	88,000

A GOVERNMENTAL UNIT
Combined Balance Sheet (Concluded)
All Funds
(At Any Date During the Fiscal Year)

Assets			Liabilities, Reserves, Balances, and Surplus		
TRUST FUND:			TRUST FUND:		
Cash	$ 6,000		Permanent balance	$ 50,000	
Investments	45,000	51,000	Expendable balance	1,000	51,000
PROPERTY AND GENERAL BONDED DEBT:			PROPERTY AND GENERAL BONDED DEBT:		
Property	$996,000		Bonds payable	$100,000	
Improvements in progress	100,000	1,096,000	Investment in general fixed assets	996,000	1,096,000
		$1,434,000			$1,434,000

A GOVERNMENTAL UNIT
Combined Balance Sheet
All Funds
(At End of the Fiscal Year—After Closing)

Assets	Total	General Fund	Special Revenue Fund	Stores Fund	Bond Fund	Sinking Fund	Special Assessment Fund	Trust Fund	Property and General Bonded Debt
Assets—other than fixed:					(Closed at the end of the year.)				
Cash	$ 53,000	$14,000	$7,000	$ 9,000		$ 1,000	$16,000	$ 6,000	
Taxes receivable—Current		$ 7,000	$3,000						
Less allowance for uncollectible taxes		3,000	1,000						
Net taxes receivable	6,000	$ 4,000	$2,000						
Assessments receivable	25,000						25,000		
Due from other funds:									
Special revenue fund		$ 3,000							
Stores fund		5,000							
General fund—City's share of cost of improvement							$ 5,000		
Total due from other funds	13,000	$ 8,000					$ 5,000		
Stores	8,000			8,000					
Investments	60,000					15,000		45,000	
Total assets—other than fixed	$ 165,000	$26,000	$9,000	$17,000		$16,000	$46,000	$51,000	
Fixed assets:									
Property	1,146,000								$1,146,000
Grand total	$1,311,000	$26,000	$9,000	$17,000		$16,000	$46,000	$51,000	$1,146,000

A GOVERNMENTAL UNIT
Combined Balance Sheet (Concluded)
All Funds
(At End of the Fiscal Year—After Closing)

Liabilities, Reserves, Balances, and Surplus	Total	General Fund	Special Revenue Fund	Stores Fund	Bond Fund	Sinking Fund	Special Assessment Fund	Trust Fund	Property and General Bonded Debt
Liabilities:									
Vouchers payable	$ 24,000	$ 8,000	$4,000	$12,000					
Tax anticipation notes payable	10,000	10,000							
Due to general fund	8,000		3,000	5,000					
Bonds payable	140,000						$45,000		$ 95,000
Total liabilities	$ 182,000	$18,000	$7,000	$17,000			$45,000		$ 95,000
Reserves:									
Reserve for encumbrances	$ 3,000	$ 2,000	$1,000						
Reserve for retirement of sinking fund bonds	14,000					$14,000			
Total reserves	$ 17,000	$ 2,000	$1,000			$14,000			
Balances:									
Permanent balance	$ 50,000							$50,000	
Expendable balance	1,000							1,000	
Total balances	$ 51,000							$51,000	
Investment in general fixed assets	$1,051,000								$1,051,000
Unappropriated surplus	10,000	$ 6,000	$1,000			$ 2,000	$ 1,000		
Grand total	$1,311,000	$26,000	$9,000	$17,000		$16,000	$46,000	$51,000	$1,146,000

Revenues and receipts; expenditures and disbursements. Revenues may differ from cash receipts, because revenues may have accrued and been credited to revenue accounts although they have not been collected. Expenditures may differ from disbursements, because an expenditure is made as soon as a liability is incurred.

For these reasons it is desirable to prepare, for each fund and for all of the funds combined, both a statement of revenues and expenditures and a statement of receipts and disbursements. In these statements, the revenues and cash receipts should be classified by sources (taxes, licenses, and so forth); the expenditures and disbursements should be classified by departments (general administration, police department, and so forth) and, for each department, by objects (salaries, supplies, and so forth).

The statement of receipts and disbursements is made from the cash records. Data for the statement of revenues and expenditures are obtained as follows: revenues—from the subsidiary ledger revenue accounts; expenditures—from the accounts in the subsidiary expenditure analysis ledger supporting the subsidiary appropriations ledger.

Assignment Material for Chapter 1

Questions

Question 1-1. State six ways of dividing partnership earnings.

Question 1-2. What matters should be reduced to agreement in the articles of partnership?

Question 1-3. Is it preferable to distinguish in the accounts of a partnership between loans made by the firm to a partner and drawings by a partner? Why?

Question 1-4. Where are loans to and from partners and partners' ordinary drawings shown in the financial statements of a partnership?

Question 1-5. When a partnership is formed, is it acceptable, as a general rule, to record the noncash assets invested by the partners at their cost to the partners? Explain.

Question 1-6. Assuming that there has been no agreement, should interest be charged or credited on:

(a) Capital accounts?
(b) Drawing accounts?
(c) Loan accounts?

Question 1-7. Assuming that the partnership agreement refers only to the sharing of net income, how will losses be shared should they develop? Will it make any difference whether the loss is an operating loss or a capital loss (for example, arising from the sale of a fixed asset)?

Question 1-8. Describe the income statement treatment of partners' salaries.

Question 1-9. In examining the partnership accounts of Black and Brown, you ascertain that the capital of $20,000 has been contributed equally, and that the articles of partnership provide that, if any excess capital is supplied by either partner, it shall be treated as a loan and interest at the rate of 5% per annum shall be allowed. Black pays in $5,000 additional and is credited at the end of the year with $250 interest, which is debited to Brown. State whether you consider this procedure correct, and give reasons for your answer.

Question 1-10. State where the following items should appear in the income statement of a partnership:

Interest on partners' capital.
Interest on partners' loans.
Interest on partners' borrowings.

Question 1-11. Devise an illustration showing the distribution of net income where the partners' salary allowances exceed the net income.

Question 1-12. What reason can be given why adjustments of earnings of prior periods should be charged or credited directly to the partners' capital accounts? Would any other treatment be acceptable?

Question 1-13. Is it ever necessary to divide the earnings of a given year in a ratio other than the profit and loss ratio currently prevailing?

Problems

Problem 1-1. Brown and Allen commence business in partnership on January 1, 1958. Brown contributes $36,000 as capital and Allen $30,000. It is agreed that earnings after interest and salary credits will be divided in the ratio of two-thirds to Brown and one-third to Allen, and that interest at 4% per annum will be credited on the capital account balances as of the beginning of the year. Earnings, salaries, and withdrawals by years were as follows:

	Earnings Before Interest and Salaries	Salary Allowances Paid to Partners		Withdrawals	
		Brown	Allen	Brown	Allen
1958	$11,590	$4,000	$6,000	$6,140	$4,850
1959	24,600	4,000	6,000	4,148	5,352
1960	1,500*	4,000	6,000	2,600	1,400

* Loss.

Prepare a statement of the partners' capital accounts for the three years ended December 31, 1960.

Problem 1-2. The following data refer to the partnership of Smith and Jones.

SMITH AND JONES
Adjusted Trial Balance
December 31, 1960

Cash	4,628	
Accounts receivable	9,122	
Allowance for doubtful accounts		111
Inventory, December 31, 1959	13,400	
Equipment	32,000	
Accumulated depreciation		7,120
Accounts payable		1,869
Jones, loan (Due July 1, 1961)		5,000
Smith, capital, December 31, 1959		22,000
Smith, drawings	800	
Jones, capital, December 31, 1959		21,500
Jones, drawings	700	
Sales		89,000
Purchases	61,000	
Freight in	630	
Selling expenses	5,156	
Administrative expenses	4,114	
Rent expense	3,600	
Depreciation expense	1,800	
Smith, salary	4,000	
Jones, salary	5,500	
Interest on partner's loan	150	
	146,600	146,600
Inventory, December 31, 1960	12,700	

The partnership agreement provides for the division of earnings (and losses) as follows:

Interest on beginning-of-year capitals: 4%.
Salaries: Smith, $5,000; Jones, $6,000.
Remainder: Smith, 40%; Jones, 60%.

Required:

(a) Financial statements, including a statement of partners' capitals.
(b) Closing entries.

Problem 1-3. The firm of Oakes and Dann has the following profit-sharing arrangement:

Salary allowances:
Oakes—$6,000
Dann—$4,800

Any amounts withdrawn by the partners are charged to their salary accounts until such drawings equal the salary allowances. Any drawings by a partner in excess of his salary are charged to a drawings account.

Remainder:
Oakes—40%
Dann—60%

Give the journal entries to complete the closing of the books under each of the following conditions:

Selected Account Balances

	Debit	Credit
(a) Revenue and expense		12,000
Oakes, salary	5,500	
Dann, salary	4,800	
(b) Revenue and expense		9,000
Oakes, salary	6,000	
Oakes, drawings	1,000	
Dann, salary	4,800	
(c) Revenue and expense	3,000	
Oakes, salary	3,200	
Dann, salary	3,200	

Problem 1-4. A statement of the capital accounts of Freeland and Hartley follows:

	Freeland	Hartley
Balances, January 1	$36,000	$48,000
Add:		
Additional investments, July 1	16,000	8,000
Net income for the year:		
Salaries	6,000	7,200
Interest on capital	2,640	3,120
Remainder	5,181	4,239
Totals	$65,821	$70,559
Deduct drawings:		
Monthly amounts	$ 4,800	$ 5,400
Additional drawings made on December 31	1,021	159
Totals	$ 5,821	$ 5,559
Balances, December 31	$60,000	$65,000

If the net income remains the same the following year, and if there is no change in the partnership agreement nor any additional investments, how much more or less will Hartley's total share of the net income be than it was this year?

Problem 1-5. The partnership of A and B was organized on January 1, 1960. The following is a transcript of the partners' capital accounts for the year 1960.

	Debits	Credits
A, capital:		
January 1		$20,000.00
August 1	$500.00	
October 1		2,000.00
December 1		100.00
B, capital:		
January 1		15,000.00
March 1		6,000.00
August 1		2,000.00
October 1	800.00	
November 1	200.00	

Assuming a net income of $20,000 for the year, show how it would be divided under the following agreements:

(a) Division in average capital ratio.
(b) Interest at 5% per annum on average capital and the remainder equally.
(c) No agreement.
(d) Interest at 5% on ending capital balances in excess of original investment and the remainder equally.

Problem 1-6. Cole and Mack had the following clause in their partnership agreement: "The partners are to be allowed salaries as follows: Cole, $4,500.00; Mack, $3,600.00; and these salaries are to be charged against the earnings of the business. In addition, Cole is to be allowed a bonus of 20% of the net income after salaries and interest have been deducted, and this bonus is to be considered as an expense of the business. Any remainder is to be divided equally."

If the net income before partners' salaries, interest, and bonus amounts to $19,875.00, and the interest on Cole's capital account is $1,864.00 and on Mack's capital account is $3,278.00, show how the net income will be distributed.

Problem 1-7. From the following data relating to the partnership of Adams, Brown, and Clark, prepare:

Income statement.
Statement of partners' capitals.
Balance sheet.

ADAMS, BROWN, AND CLARK
Trial Balance
December 31, 1961

Cash	7,210	
Accounts receivable	80,000	
Allowance for doubtful accounts		50
Inventory—December 31, 1960	125,000	
Accounts payable		59,505
Notes payable—Clark (5%)		60,000
Sales		470,455
Purchases	343,000	
Employees' salaries	28,000	
Store expenses	82,000	
Business taxes	2,000	
Interest expense on partner's loan	3,000	

Adams, salary	6,000	
Brown, salary	6,600	
Clark, salary	7,200	
Adams, capital		50,000
Brown, capital		30,000
Clark, capital		20,000
	690,010	690,010

Brown owns the store. The partnership occupies it under an agreement providing for an annual rental of $6,000, payable in advance in monthly installments. The 1961 rent has not been paid, and is now to be credited to Brown as an additional investment, together with interest at 6% per annum on the monthly installments.

Of the interest paid on the partner's note, $750 applies to the period subsequent to December 31, 1961.

There are accrued business taxes of $320 and accrued employees' salaries of $300.

It is estimated that one per cent of the accounts receivable will prove uncollectible.

The year-end inventory amounts to $155,000.

The partners have an agreement with the employees providing for bonuses equal to ten per cent of the net income, with such bonuses to be considered as expenses.

The profit-sharing agreement can be summarized as follows:

Salaries—each partner	$7,500
Interest on January 1 capital balances	4%
Remainder	45%, 30%, and 25%

Problem 1-8. The partnership of Zeff, Andy, and King reported net income for the calendar years 1958–1960, inclusive, as follows:

1958	$96,400
1959	78,000
1960	56,400

King wants to retire from the firm, and for that reason you are asked to prepare any necessary adjusting entries, with supporting detail, after considering the following information.

(1) The following inventories were overstated (understated):

December 31, 1958	$12,000
December 31, 1960	(8,400)

(2) The account Prepaid Insurance was overstated by $600 on December 31, 1959 and 1960.

(3) Accounts payable for operating expenses were overstated (understated):

December 31, 1959	($4,800)
December 31, 1960	(1,200)

The capital accounts of the partners were credited for net income as follows:

	1958	1959	1960
Zeff	$38,560	$31,200	$19,740
Andy	38,560	31,200	19,740
King	19,280	15,600	16,920

Problem 1-9. The firm of Jackson, Jenkins, and Johnson was organized on July 1, 1959. The partners agreed that earnings, after salaries, should be divided on the basis of the net collectible sales made by each partner during the year, and that each partner was to be individually responsible for the estimated cost of any merchandise sold on uncollectible accounts. All merchandise sold by the partnership was priced at 150% of cost. Each partner was allowed a salary of $4,000 a year payable quarterly, and, in addition, was allowed to withdraw up to $3,000 per year.

The books were closed June 30, 1960, and the financial statements were prepared. Since the bookkeeper had had no previous experience with partnership accounting, you are called in by the partners to determine whether the partnership agreement was followed. The following data were taken from the income statement prepared by the bookkeeper.

Sales:		
By Jackson	$31,200	
By Jenkins	39,000	
By Johnson	27,600	$97,800
Cost of goods sold		65,200
Expenses—other than interest, partners' salaries, and bad debts		10,800
Bad debts:		
Arising from sales by Jackson		1,200
Arising from sales by Jenkins		600
Partners' salaries		12,000
Net income		8,000

Distributed as follows:

	Jackson	Jenkins	Johnson	Total
Net income	$2,500	$3,200	$2,300	$8,000

In addition to the mistakes apparent from an analysis of the data taken from the income statement, you discover the following errors:

Accrued storage space rent was ignored	$130
Additional uncollectible accounts:	
Arising from sales by Jackson	327
Arising from sales by Jenkins	720
Arising from sales by Johnson	753

On December 1, 1959, Johnson loaned the firm $3,000 at 4% per annum. No interest was paid or accrued on this loan.

Prepare a revised, condensed income statement, including a section showing the distribution of the net income.

Problem 1-10. Thompson and Reece were partners. Shortly before the close of 1960 their bookkeeper left suddenly, and they disagreed about the manner of distributing 1960's net loss from operations, which amounted to $1,190 before consideration of interest (the partners agree that the rate is 5%), salaries, or drawings. They ask you to arbitrate the matter. You believe that the best evidence of their understanding is the manner in which the distribution of earnings was made in earlier years. The partners agree that the division of the 1959 net income of $24,495 was made in accordance with their understanding of their profit-sharing agreement.

The partners' capital accounts for the years 1959 and 1960 are shown on the following page.

How should the loss for 1960 be divided?

Thompson, Capital

1959			1959			
Dec. 31	Salary	6,000	Jan. 1	Balance	60,000
31	Drawings	1,965	July 1	Investment	2,400
	Balance	65,000	Dec. 31	Net income	10,565
		72,965			72,965
			1960		
			Jan. 1	Balance	65,000
			Sept. 1	Investment	1,800

Reece, Capital

1959			1959		
May 1	Excess withdrawal	3,000	Jan. 1	Balance	90,000
Dec. 31	Salary	8,000	Nov. 1	Investment	3,000
31	Drawings	1,330	Dec. 31	Net income	13,930
	Balance	94,600			
		106,930			106,930
			1960		
			Jan. 1	Balance	94,600

Problem 1-11. *A*, *B*, *C*, and *D* are partners. *A*, *B*, and *C* operate separate stores and are entitled to bonuses on the earnings of their respective stores, as follows: *A*, 15%; *B*, 10%; *C*, 20%. *D* is in charge of all buying and general administration, and is entitled to a bonus on the earnings of each store as follows: *A*'s store, 5%; *B*'s store, 4%; *C*'s store, 2%. The net incomes of the separate stores, before bonuses were allowed, were:

A's store	$13,800.00
B's store	30,800.00
C's store	14,640.00
Total	$59,240.00

Any net income remaining after the bonuses is to be divided equally. Prepare a schedule showing the division of the earnings on the following assumptions:

(1) The bonuses are not to be regarded as expenses.
(2) Each managing partner's bonus is to be regarded as an expense of his store, which may be deducted to determine the net income on which his bonus is based; *D*'s bonus is then to be regarded as an expense to be deducted from the net income remaining after the bonuses to managing partners, to determine the net income on which *D*'s bonuses are based.
(3) Each managing partner's bonus and *D*'s bonus on the net income of each store are to be regarded as expenses which may be deducted to determine the net income on which bonuses are based.

Problem 1-12. *D*, *O*, and *G* became partners on January 1, 1951. There was no provision in their original agreement covering the sharing of earnings, but the agreement did state that the partners were entitled to the following annual salaries: *D*, $6,000; *O*, $5,000; and *G*, $4,000. The beginning capital investments were: *D*, $20,000; *O*, $30,000; and *G*, $50,000.

As of January 1, 1956, the partnership agreement was amended to provide thereafter for the distribution of earnings after salaries in the ratio of the partners' beginning capital investments. This agreement is still in effect.

You have been called in as of December 31, 1960 to determine for the partners their correct capital account balances.

An examination of the records disclosed the following:

1. Balances per books, as of December 31, 1960:

Assets	$270,000
Liabilities	94,000

2. Total withdrawals:

   D and *O*: $3,000 each per year for the ten years.
   G: $3,000 per year for the first five years and $4,000 per year thereafter.

3. Net income per books:

1951	$15,000	1956	$14,000
1952	17,000	1957	16,000
1953	19,000	1958	20,000
1954	14,000	1959	18,000
1955	16,000	1960	22,000

4. The review of the records revealed that some material errors had been made at various times. These errors were as follows:

   (a) The December 31, 1953 inventory was overstated by $15,000.
   (b) The December 31, 1955 inventory was overstated by $6,000.
   (c) The December 31, 1960 inventory was understated by $20,000.
   (d) Depreciation was overlooked on an asset acquired at the beginning of 1953 at a cost of $15,000. Assets of this type were being depreciated by the partnership at an annual rate of 20 per cent of cost, and depreciation at this rate was recorded for the asset in question for the years 1954 through 1958.

Prepare any adjusting entries needed as of December 31, 1960 to the partners' capital accounts. Support the entries with schedules in good form.

Problem 1-13. Bryan and Hanks have been in business for five years. During the first three years they shared earnings equally, but during the last two years they have shared earnings in the ratio of 40% and 60%. Their capital account balances at the end of five years are as follows: Bryan, $33,600; Hanks, $38,240.

Hanks now wants to retire, but he claims that an inconsistent policy was followed in determining the cost of equipment, incidental costs being capitalized in some years and expensed in others, as shown by the analysis submitted below. Bryan counters that the inventories were determined on an inconsistent basis, with the results as shown by the analysis submitted below.

The partners now agree that all incidental costs should have been capitalized and that a consistent method should have been followed in determining inventories. The partnership computes depreciation by applying a rate of 25% to the year-end balance in the Equipment account.

	1st Year	2nd Year	3rd Year	4th Year	5th Year
Incidental equipment costs capitalized	—	—	$2,400	$1,800	—
Incidental equipment costs expensed	$2,000	$3,000	—	—	$1,200
Understatement of ending inventory	4,000	—	3,000	5,000	—
Overstatement of ending inventory	—	6,000	—	—	7,200

Required:

A schedule showing the capital account balances at the end of the fifth year as revised.

Problem 1-14. On January 1, 1959, a partnership was formed to engage in the business of selling and distributing household appliances to discount houses. From the data below, you are to prepare a statement of partners' capitals covering each six-month period of the firm's existence, with suitable schedules of supporting computations, and a balance sheet as of December 31, 1960.

When the firm started operations on January 2, 1959, *X* and *Y* contributed $20,000 and $30,000, respectively, as capital for the business. On July 1, 1959, *A* was admitted to the firm, paying in $25,000, and on January 1, 1960, *B* was admitted and paid in $12,000. No interest was to be allowed on the partners' capitals. All partners devoted their entire efforts to the business during the time they were partners and were to be compensated at the following annual rates: $8,000 each for *X* and *Y*, $7,520 for *A*, and $6,000 for *B*. Because of the need for working capital, salary withdrawals were limited to $400 per month for each partner. The partnership agreement, as finally drawn up, provided for a split of any net income or loss after salary allowances among the partners involved for each six months in the following ratios: *X*—3, *Y*—3, *A*—2, and *B*—2.

Formal books of account were not maintained, but an analysis of cash receipts and disbursements revealed the following data:

	Six Months Ended			
	6/30/59	12/31/59	6/30/60	12/31/60
Collections on sales made in the six-month period ended:				
June 30, 1959	$36,600	$ 6,200	$ 4,100	$ 2,500
December 31, 1959	—	124,200	34,500	8,200
June 30, 1960	—	—	192,500	53,900
December 31, 1960	—	—	—	347,300
Payments on purchases	65,871	152,382	185,699	338,546
Rent and other fixed charges	5,698	6,550	10,891	12,141
Other expenses	2,620	14,120	22,620	23,341
Withdrawals	4,800	7,200	9,600	9,600

Customers' accounts, all considered collectible as of December 31, 1960, by period of origin, were:

Sales made during six months ended:

June 30, 1959	$ 1,600
December 31, 1959	3,100
June 30, 1960	8,600
December 31, 1960	26,700

A physical inventory on December 31, 1960, showed that the merchandise inventory on hand, at cost, including that covered by unpaid invoices of $14,285, amounted to $83,084.

The partners have agreed:

(a) that "rents and other fixed charges" are to be divided equally over the four six-month periods;

(b) that the cost of merchandise sold during these periods may be assumed to have been 70%, 75%, 80%, and 80%, respectively, of sales;

(c) that any merchandise "loss" resulting from the application of the above amounts and percentages may be regarded as a proper addition to "other expenses";

(d) that "other expenses" are to be spread over the four periods in proportion to sales.

Assignment Material for Chapter 2

Questions

Question 2-1. What is the distinction between buying an interest in a partnership and making an investment in a partnership? How would the accounting entries for the two transactions differ?

Question 2-2. How would you record the fact that *F*, with the consent of *B*, bought *A*'s interest in the partnership of *A* and *B* at a price in excess of the amount of *A*'s capital account?

Question 2-3. Two partners agree to admit a third partner. Before the admission of the new partner, a Goodwill account is to be placed on the books. What entry should be made, and in what ratio will the two original partners be credited? State why this ratio is used.

Question 2-4. Should partnership assets be revalued when a new partner enters the firm if he acquires his equity by purchasing an interest as opposed to making an investment in the firm?

Question 2-5. If a new partner purchases an interest at more than book value from two old partners, will the cash division between the old partners depend on whether implied goodwill is or is not recognized in the accounts?

Question 2-6. *A* and *B* are equal partners, with capitals of $20,000 each. They agree to admit *C* to a one-third interest in the capital and the earnings if he will pay in $23,000. They allow him to decide whether a goodwill of $6,000 shall be placed on the books, in which case he will be credited with the entire $23,000, or whether no goodwill shall appear on the books, in which case he will be credited with $21,000. He asks your advice about the better option.

Would your advice be different if *C* were to have one-third of the capital but to receive only one-fourth of the earnings, *A* and *B* sharing the remainder equally?

Question 2-7. A new partner opposes the recording of goodwill because of the possibility that the ultimate effect, should it ever be written off, will differ from that if goodwill is not recorded when the new partnership is formed. Is this a good reason for not recording goodwill? Support your answer.

Question 2-8. Why is it important to place current values on noncash assets invested in a partnership by a new partner?

Question 2-9. When a partner retires, he has a right to be paid the amount of his equity in the business. However, a question may arise whether his equity is fairly measured by the balance of his capital account. Describe three classes of adjustments that may be necessary to produced a balance in the retiring partner's capital account which is a fair measure of his equity.

Question 2-10. At the end of a fiscal year a partner announces his intention of withdrawing from the firm and asserts that exactly three years ago the merchandise inventory was misstated in the accounts. He does not doubt the correctness of the current inventory amount. Assuming that his assertion is true, under what circumstances, if any, would this matter be of some relevance at this time?

Question 2-11. *A*, *B*, and *C* are partners, sharing profits equally. *C* is to retire. The goodwill of the business is valued at $12,000. Give journal entries showing two methods of placing the goodwill on the books, and state which method is preferable.

Question 2-12. In a case where one partner is retiring from the partnership, suppose that the book values of all assets except inventory coincide with current market values. The partners agree that the inventory is worth 50 per cent more than cost, which is its carrying value, and they agree that the retiring partner should receive credit for his share of the increase in value in his retirement settlement. However, the remaining partners do not want to have the inventory account stated above cost.

Outline a procedure to achieve equity to the retiring partner and yet leave the inventory account at cost on the books of the new partnership.

Question 2-13. When a partner is retiring and there is implied goodwill or bonus present, is the choice between the goodwill or bonus treatment immaterial? Explain.

Question 2-14. When a partner is retiring and there is need to give recognition to market values of the firm's assets, should the adjustment of asset valuations be for the full amount of the increase or decrease in market value, or for only the retiring partner's profit and loss percentage thereof? Give reasons.

Question 2-15. Where the settlement with a retired partner is postponed by mutual agreement, is it acceptable to leave his capital account open until settlement is completed?

Question 2-16. A partnership changes its form of organization to a corporation. State what entries should be made on the partnership books to record the change in case new books are to be opened by the corporation.

Problems

Problem 2-1. Make entries in journal form, and without explanation, for each of the following cases. *X* has a capital of $25,000 and *Y* has a capital of $20,000. Profits and losses are shared equally.

(a) *Z* contributes $15,000 for a one-fourth interest in the capital.
(b) *Z* contributes $20,000; the total capital is to be $80,000; and *Z* is to have a one-fourth interest therein.
(c) *Z* contributes $11,000; the total capital is to be $56,000; *Z* is to have a one-fourth interest therein.
(d) *Z* contributes $13,000 and is to have a capital credit of $15,000, or one-fourth of the total capital.
(e) *Z* contributes $19,000; the total capital is to be $64,000; *Z* is to have a one-fourth interest therein.

Problem 2-2. Grinnell, Hodgman, and Innes have net assets of $42,000 and capital credits as follows: Grinnell, $20,000; Hodgman, $14,500; and Innes, $7,500. They share earnings in the ratio of 45:35:20. They agree to take Jackson into the partnership, giving him a 10% interest in the capital and earnings upon payment of $5,000 to the other partners.

Present journal entries with supporting computations to record the admission of Jackson under the following alternatives:

(a) Goodwill in the amount implied by Jackson's purchase is to be put on the books.
(b) No goodwill is to be put on the books.

Problem 2-3. Allan and Balch are partners with capitals of $42,000 and $26,000, respectively, and they share earnings in the ratio of 3 to 2. They admit

Carr to the partnership upon his payment of $22,000 into the firm; the new capital is to be stated at $100,000 and Carr is to have a 25% interest in it.

Prepare a statement showing the capital interests of the partners.

Submit the journal entries to make the changes.

Problem 2-4. Upton, Varney, and West were partners having capitals of $34,600, $21,300, and $13,300, respectively. They shared earnings in the ratio of 3:2:1. Upton wished to retire, and it was agreed that he should be paid $40,000 for his interest and that the total goodwill of the firm implied by the payment should be set on the books. Varney and West continued the business for two years, sharing earnings in the ratio of 2 and 1. During that period their earnings totalled $33,750. Varney withdrew $14,400 and West $8,400. It was then agreed that the profit and loss ratio should be changed to 3 and 2. In the third year, the net income was $21,690, and Varney withdrew $7,200 and West $4,200. At the end of the third year, they wrote off the goodwill.

(a) Prepare a statement showing the changes in the partners' capital accounts from before Upton's retirement through the third year.

(b) How much more or less did Varney lose by the write-off of goodwill than he would have lost if only Upton's share of the goodwill had been placed on the books and if it had been written off at the end of the first year?

Problem 2-5. Roberts, of Roberts and Rogers, partners sharing profits in the ratio of 60% and 40%, wants to retire. The partners agree that the fixed assets are undervalued by $20,000, that goodwill is worth $15,000, and that Roberts' share of these increases shall be recorded and credited to his capital account. Since the working capital is only $70,000, it is decided that Roberts shall receive only one-third of his adjusted capital credit in cash. For the remainder he accepts securities, which have been carried as "other assets" at their book and market value of $12,000, and a six-month note payable. The balance sheet which is then prepared appears as follows:

Assets		Liabilities	
Current assets	$ 53,000	Current liabilities	$ 52,000
Other assets	3,000		
Fixed assets	37,000	Owner's Equity	
Goodwill	9,000	Rogers, capital	50,000
	$102,000		$102,000

Reconstruct the balance sheet as it appeared before adjustments to Roberts' capital account preliminary to his withdrawal.

Problem 2-6. Black, Brown, and Green are partners in a business and share in its earnings at the respective rates of 50%, 30%, and 20%. At the beginning of the new fiscal year, they admit White, who is to invest in the firm sufficient cash funds to give him a one-third interest in the capital and in the earnings. The following closing trial balance is taken from the old firm's books:

Cash	100,000	
Marketable securities	75,000	
Customers' accounts	225,000	
Accounts payable		50,000
Bank loan		30,000
Black, capital		175,000
Brown, capital		100,000
Green, capital		45,000
	400,000	400,000

The securities have a market value of $50,000, and a reserve of $25,000 is required to cover bad debts. No other adjustment of the net assets is necessary, but the three old partners must among themselves bring the balances in their capital accounts into agreement with their interests in the earnings.

(a) What amount must be invested by White?
(b) What are the balances in the partners' capital accounts after White's admission to the firm, and what settlement is made among the old partners?
(c) By what entry are their capital accounts adjusted?

Problem 2-7. Brown and Morden are partners, sharing profits in the capital ratio. Their capitals on July 1, 1960, are $42,000 and $28,000, respectively, and there is a goodwill account on the books with a balance of $15,000.

Nelson agrees to contribute enough cash to give him a one-third interest in the capital. Although he acknowledges the existence of the goodwill, he insists that it shall not appear on the books, and he requires that all of the money he invests shall remain in the business. Profits are to be divided in the capital ratio.

Give the journal entries for the elimination of the goodwill and the investment by Nelson.

Problem 2-8. Associates and Company is a family partnership engaged in the wholesale trade. It closes its books on January 31. During the year, all transactions are recorded on a cash receipts and disbursements basis, with the exception of payroll. However, at the end of the fiscal year, adjustment is made to what is termed the "inventory account" for all items necessary to show operations and financial position on an accrual basis.

Partner *E* died on October 31, 1959. His will left equal shares in his estate to partners *A* and *C* and an outsider, *F*. For purposes of this problem, assume no probate period, and that *E*'s estate is distributed immediately. All remaining partners, together with *F*, agree that the business of Associates and Company will continue as a partnership of *A*, *B*, *C*, *D*, and *F*, with each partner's interest computed as of November 1, 1959, on a proper accrual basis to October 31 and after distribution of *E*'s interest on that date.

Depreciation of fixed assets may be ignored.

Balances as shown by the books of the firm are as follows:

	January 31, 1959	October 31, 1959
Cash	$ 42,000	$ 55,000
Inventory account	195,000	195,000
Fixed assets	60,000	59,000
Accrued payroll	29,000	16,000
Notes payable	100,000	60,000
Partners' equity	168,000	168,000
Sales	—	2,000,000
Purchases	—	1,725,000
Operating expenses	—	210,000

In addition to the above, the following information concerning the Inventory Account was available:

As of January 31, 1959: Accounts receivable, $80,000; merchandise, $200,000; freight claims (on incoming merchandise), $2,000; prepaid operating expenses, $10,000; accounts payable, $90,000; allowances payable to customers, $7,000.

As of October 31, 1959: Accounts receivable, $83,300· merchandise, $221,000;

freight claims (on incoming merchandise), $1,500; prepaid operating expenses, $6,000; accounts payable, $85,000; allowances payable to customers, $8,000.

Partners' equities and profit-and-loss sharing ratio:

	Equities	Profit and Loss Ratio
A	$ 10,500	6.25%
B	52,500	31.25
C	77,000	37.50
D	7,000	12.50
E	21,000	12.50
	$168,000	100.00%

Prepare a statement of partners' capitals for the period January 31, 1959 through November 1, 1959 and a balance sheet as of November 1, 1959.

Problem 2-9. The partners of Tut Stores have the following capital account balances on July 31, 1960: Tuthill, $144,000; Underwood, $216,000; and Thomas, $90,000. The partners share profits and losses two-fifths, one-half, and one-tenth, respectively. On August 1, 1960, Taylor invests $85,080 in the business for a one-sixth interest in net assets and earnings.

Required:

(a) Three alternative solutions, in journal-entry form, to record Taylor's admission to the firm.
(b) Two alternative journal entries to record Taylor's admission if, instead of investing, he purchases a one-sixth interest ratably from all of the partners.
(c) A schedule of cash transfers in connection with (b).

Problem 2-10. Fisher and Gregg are partners in a manufacturing business, sharing earnings in the capital ratio. They, together with their sales manager, Hughes, their factory superintendent, Isaacs, and an outsider, James, have developed plans to form a corporation.

A written agreement, signed by the five parties, contains the following provisions:

The authorized capitalization of the corporation is to consist of enough shares of preferred and common stock, of $100 par value each, to meet the requirements stated hereafter.

Hughes and Isaacs are to contribute, in equal parts, sufficient cash to pay the principal of the real estate mortgage which matures January 2, 1961.

James is to furnish sufficient cash to pay the principal of the demand notes.

Preferred stock is to be issued in payment for the partners' equity in the partnership, exclusive of goodwill, and for the cash contributed under this agreement.

Common stock is to be issued for the goodwill of Fisher and Gregg, valued at one-half of the partners' equity.

Fisher and Gregg agree to surrender enough of their shares of the common stock received for the goodwill to reduce their holdings thereof to 35% and 25%, respectively; the shares so surrendered are to be transferred two-fifths to Hughes, two-fifths to Isaacs, and one-fifth to James.

A certified public accountant will make an examination of the accounts as of December 31, 1960, and close the books after providing therein for his fee

and adjusting the fixed asset balances to agree with the values as determined by an appraisal.

The partnership books are to be continued by the corporation.

The accountant submits the following balance sheet:

FISHER AND GREGG
Balance Sheet
December 31, 1960

Assets		Liabilities and Partners' Capital		
Cash	$ 50,000	Accounts payable		$ 65,000
Accounts receivable—net	235,000	Demand notes		100,000
Notes receivable	150,000	Accrued interest on notes		2,000
Inventories	250,000	Accrued interest on mortgage		5,000
Fixed assets	500,000	Accrued taxes		13,000
		Real estate mortgage		200,000
		Partners' capital:		
		Fisher, capital	$500,000	
		Gregg, capital	300,000	800,000
	$1,185,000			$1,185,000

Prepare entries to record the above facts in the manner agreed. The cash contributed by Hughes, Isaacs, and James was used for the purposes designated. You may assume that all of the transactions occurred on January 2, 1961.

Problem 2-11. The balance sheet of Hayes and Hogan, a partnership, appears as follows:

HAYES AND HOGAN
Balance Sheet
October 31, 1960

Assets			
Current assets:			
Cash		$ 4,110	
Accounts receivable	$21,216		
Less allowance for bad debts	800	20,416	
Inventories		24,110	
Prepaid expenses		1,014	$49,650
Fixed assets:			
Furniture and fixtures		$24,100	
Less accumulated depreciation		6,820	17,280
			$66,930
Liabilities and Partners' Capital			
Current liabilities:			
Accounts payable		$16,140	
Accrued expenses		2,080	$18,220
Partners' capital:			
Hayes, capital		$26,035	
Hogan, capital		22,675	48,710
			$66,930

Hogan and Hayes share profits and losses equally.

The partners incorporate as *H* and *H* Corporation with an authorized capital of 5,000 shares of no-par stock, of which 4,400 are issued to the partners in exchange for their interest in the net assets of Hayes and Hogan, and the remainder are issued at $12 per share for cash.

The partners agree that the following adjustments should be recorded:

Allowance for bad debts decreased by	$ 400
Inventories increased by	1,200
Accumulated depreciation decreased by	620
Goodwill is to be recognized in an amount which will cause the net assets of the partnership to equal the cash issuance price of the shares to be issued therefor.	

The directors of *H* and *H* Corporation establish a stated value of $10 a share for the no-par stock and decide to open new books for the corporation.

Required:

(1) Journal entries to adjust and close the partnership's books.
(2) The balance sheet of *H* and *H* Corporation on November 1, 1960.

Problem 2-12. The partnership of *A* and *B* is a distributor for a nationally advertised line of farm implements in a small town. The partnership also operates a small lumber yard. *B* is no longer active in the business and has agreed to sell his interest in the partnership to *A* at an adjusted book value as of March 31, 1960. *B* is willing to accept *A*'s 5 per cent notes payable in four annual installments of $3,000 each beginning October 1, 1960, and all of the notes receivable held by the partnership in part payment for his interest, the remainder of the selling price to be paid immediately from cash of the dissolved partnership.

The trial balance of the partnership as of March 31, 1960, and additional information follow.

Cash	7,100	
Accounts receivable	12,050	
Merchandise account	22,500	
Property	7,250	
Expense	6,550	
Accounts payable		17,600
A, capital		20,550
B, capital		17,300
	55,450	55,450

Additional information:

1. *A* is the active manager of the business and draws a salary of $500 per month. The remaining profits or losses are distributed equally between the partners. The partnership normally closes its books on a calendar-year basis.
2. The cash account is properly stated.
3. The aggregate of the detailed accounts receivable is $14,900 and includes $5,650 in notes receivable. Prior years' tax returns indicate that certain accounts have been written off, but no record has been kept of the detail of such write-offs. The partners agree that all the notes receivable are collectible, but that $1,050 of the accounts will prove to be uncollectible.
4. The latest physical inventory was taken on December 31, 1959, and consisted of the following: implements, $10,300; implement parts, $7,800; lumber, $4,400; and a used truck, $1,200. The truck is used in the business and was priced at the estimated resale value. The cost of the truck is not known, but the partners estimate that it had a useful life of three years on December 31, 1959. The inventory was charged to the Merchandise Account as of January 1, 1960. Other transactions recorded in the Merchandise Account during the three months ended March 31, 1960, consist

of purchases of $38,400 and sales of $39,600. Purchases have been credited to Accounts Payable.

5. Property consists of land, $250; building, $2,000; and equipment, $5,000. The detailed records indicate that these amounts represent cost.
6. Expenses for the three months include *A*'s salary. Other salaries and wages for the same period aggregated $3,500.
7. Accounts payable to vendors other than the implement manufacturer have been recorded on the basis of statements received. No vendors have been omitted. The account payable to the implement manufacturer as shown by the books does not agree with that vendor's statement as of March 31, 1960. You are able to determine that the difference is due to improper handling of the 2 per cent cash discount allowed on $30,000 of invoices paid during the first three months of 1960. These invoices were credited at gross but only the net amount paid has been charged against the accounts payable control account.
8. Your review of tax returns for the most recent three years reveals that the invoice cost of merchandise sold has averaged 75 per cent of sales. You also note that a $2,000 reserve for depreciation appears in the balance sheet in the 1959 tax return. Depreciation has been provided in the return on the basis of a twenty-year life for the building and a ten-year life for equipment.

A does not want to close the accounts at this time, preferring to keep the closing on an annual basis. However, he does want the accounts corrected.

Submit journal entries for any corrections of the accounts and for the retirement of *B* as of March 31, 1960.

Problem 2-13. Kelly, Kinsey, Culbertson, and Malone were partners whose capital contributions were $112,500, $202,500, $45,000, and $90,000, respectively. Earnings were shared in the ratio of initial capital investments.

At the end of the second year of operations, Culbertson died. His estate was paid the sum of $44,300 and was released from all liability to the partnership.

At the beginning of the third year, January 1, 1960, Booth, a former salesman of the firm, was admitted as a partner with a capital contribution of $100,000 and with a guarantee against losses of prior periods.

The following drawings were made by the partners during the first three years:

Year	Kelly	Kinsey	Culbertson	Malone	Booth
1	$25,000	$60,000	$30,000	$15,000	$ —
2	30,000	60,000	13,000	17,000	—
3	20,000	55,000	—	19,000	25,000

The net income during the same period was: first year, $270,000; second year, $117,000; third year, $280,000.

After the admission of Booth into the partnership, the profit and loss ratio was: Kelly, 40%; Kinsey, 25%; Malone, 20%; Booth, 15%.

After the books were closed at the end of the third year, it was discovered that net income had been misstated by reason of the following facts:

(1) Depreciation of special equipment had not been taken into consideration. Depreciation understatement: first year, $45,000; second year, $54,000; third year, $45,000.

(2) The assets included $75,000 of valueless securities purchased with cash contributed by Booth.

Goodwill does not appear in the books of the partnership.

Prepare a statement showing the capital accounts of the five partners for the

three-year period, giving effect to the necessary adjustments to correct the books.

Problem 2-14. Four partners share earnings by allowing interest on capitals at 6% per annum and dividing the remainder equally. The partnership agreement provided that, in the event of the death of any partner, there should be paid to the legal representative of the deceased on January 31 of the following year:

(A) The balance in his capital account at the date of his death.
(B) Minus the balance in his drawings account at the date of death.
(C) Plus a share of the net income of the year of his decease, consisting of:
  (1) Interest at 6% per annum on his capital from the preceding December 31 to the date of his death;
  (2) A share of the remaining net income estimated on the basis of:
    (a) The average of his share of such remaining net income for the last three completed years.
    (b) The portion of the year between the date of death and the preceding December 31.
(D) Plus interest at 6% per annum from the date of death to January 31 of the following year, on the total determined in accordance with paragraphs (A) to (C) inclusive.

The surviving partners were to share the remaining earnings equally.

C died on June 30, 1960. The total net income of the three immediately preceding years was $219,600. Each partner had drawn annually in prior years his exact share of the total net income, and no partner had made any additional investments.

With the aid of the following trial balance, prepare a balance sheet as of December 31, 1960, and a statement of partners' capitals for 1960.

The inventory on December 31, 1960, was $125,000.

Trial Balance—December 31, 1960

A, capital		120,000
B, capital		110,000
C, capital		100,000
D, capital		90,000
A, drawings	12,000	
B, drawings	12,000	
C, drawings	5,000	
D, drawings	12,000	
Inventory, December 31, 1959	100,000	
Purchases	1,775,000	
Factory wages and salaries	250,000	
Discounts taken		20,000
Sales		2,110,000
Cash	119,500	
Bad debts	16,000	
Notes receivable	15,000	
Office salaries	9,000	
General office expenses	2,500	
Depreciation expense	3,250	
Accounts receivable—net	310,750	
Traveling expenses	10,000	
Taxes—Factory	1,000	
Rent and taxes—Office	2,000	
Land	10,000	
Building	60,000	
Plant and machinery	15,000	
Office furniture and fixtures	2,500	

Accumulated depreciation		20,000
Notes payable		50,000
Accounts payable		130,000
Interest expense on notes	7,500	
	2,750,000	2,750,000

Problem 2-15. Andy and Bill have been operating a business for several years as partners. For the several years to December 31, 1959, they divided earnings in the ratio of two-thirds and one-third. As of January 1, 1960, they amended their profit-sharing agreement to a fifty-fifty basis.

They need additional capital to expand their business and have agreed to admit Carl to the partnership as of January 1, 1961, with a one-third interest in earnings and in the capital, Carl to pay cash into the business as additional capital in an amount equal to one-half of the combined capital of the present two partners, redetermined as follows:

The average net income of the partnership for the past two years, after deducting therefrom a hypothetical salary allowance of $4,000 for each partner, is to be capitalized at the rate of 10%, which will redetermine the aggregate capital of the present two partners. Before such capitalization of net income, the accounts are to be adjusted for errors and omissions.

The business has not followed a strict accrual basis of accounting. As a result, the following items have been omitted from the books:

Item	Balance 12/31/58	Balance 12/31/59	Balance 12/31/60
Accrued expenses	$3,201	$2,472	$4,361
Accrued income	—	250	475
Prepaid expenses	1,010	1,226	872

In addition, no provision has been made for loss on uncollectible accounts. It is agreed that a provision of $4,500 is needed as of December 31, 1960, of which $600 is for 1959 accounts. Charge-offs have been made to expense in 1958 of 1957 and prior accounts—$1,200; in 1959 of 1958 accounts—$3,100 and of 1959 accounts—$400; in 1960 of 1959 accounts—$2,280 and of 1960 accounts—$525.

The inventory on December 31, 1960, contains some obsolete goods carried at cost of $4,300. A 20% write-down is to be made to reduce these items to their present value.

The following balance sheet and other data are available:

December 31, 1960

Cash	$ 7,000	Accounts payable	$ 43,200
Accounts receivable	42,500	Notes payable	25,000
Notes receivable	6,000	Reserve for depreciation of fixtures	5,300
Merchandise	64,000	Andy, capital	22,000
Store fixtures	12,400	Bill, capital	36,400
	$131,900		$131,900

	1958	1959	1960
Net income per books	$12,364	$14,585	$16,498
Andy, capital—December 31	20,000	24,000	22,000
Bill, capital—December 31	25,000	33,000	36,400

You are to show the computation of the amount that Carl will pay into the partnership and prepare a balance sheet as it would appear after adjustment for errors and omissions and after redetermination of capital accounts and receipt of Carl's capital contribution as of January 1, 1961.

Assignment Material for Chapter 3

Questions

Question 3-1. Why should losses and gains on realization be divided among the partners before any liquidating payments are made to them?

Question 3-2. What is meant by "the right of offset" in partnership liquidations?

Question 3-3. What is the order of priority in the payment of equities in the liquidation of a partnership?

Question 3-4. How should you distribute the cash on hand in liquidating a partnership if, after charging off losses:

(a) One partner has a credit balance in his capital account and the other has a debit balance?
(b) Two partners have credit balances in their capital accounts and one has a debit balance?
(c) A partner has a debit balance in his capital account and a larger credit balance in a loan account?

Question 3-5. If a partnership is insolvent and some of the partners are individually insolvent, what is the rule for making payments to firm creditors and to individual creditors?

Question 3-6. *A* and *B* enter into partnership on January 1, 1959, investing $20,000 and $16,000, respectively, and making no agreement regarding the division of earnings. The business is unsuccessful, and it is decided to liquidate. On November 30, 1959, after converting all assets into cash and paying all liabilities, the partners find that they have $27,000 in cash to divide. Between January 1 and November 30, 1959, *A* has drawn $2,000 and *B* has drawn $1,000. A dispute then arises concerning the division of the $27,000. *A* claims that the money should be divided in the capital ratio—5/9 and 4/9. *B* contends that, since they had made no agreement, they are equal partners, and that hence the $27,000 should be divided equally. What is your opinion in this matter?

Question 3-7. State two methods of dividing the cash among the partners during a liquidation that would generally produce incorrect results.

Question 3-8. *X* and *Y* have capitals of $50,000 and $6,000, respectively. *Y* manages the business and is allowed a salary. Four thousand dollars of his salary has not been paid, and it appears as a credit in an account called *Y*, Salary. All assets have been realized; all liabilities have been liquidated; and there is $44,000 of cash for division between the partners. State how this money should be divided.

Question 3-9. A partnership is being dissolved, and after all losses are charged off, some of the partners have debit balances and others have credit balances. The assets are not sufficient to pay the liabilities. May the creditors collect from any partner, or must they collect from only those partners who have debit balances, on the theory that the partners with credit balances have equities in the partnership assets similar to those of the creditors?

Question 3-10. Develop an illustration to demonstrate the difference between the operation of common-law decisions and the Uniform Partnership Act regarding the rights of separate creditors of an insolvent partner.

Problems

Problem 3-1. Ruggles, Stanton, and Tracy are partners, having capitals of $32,174.20, $41,907.80, and $27,635.00, respectively. They share earnings as follows: Ruggles, 35%; Stanton, 45%; and Tracy, 20%. They sell their assets for a lump sum of $140,000.00, which increases the firm's cash to $150,000.00. Of the gain made, $24,000.00 was on a patent which had been developed principally by Tracy, and it was agreed that he should have half of such gain before the remaining gain was divided among the three partners.

Prepare a statement of partnership liquidation. There were no liabilities.

Problem 3-2. *C* and *D* are partners sharing profits and losses in the ratio of 55% and 45%.

C's capital investment is $4,500 and *D*'s is $3,500. It is decided by the partners that the business should be dissolved. The firm has liabilities of $7,200, including $900 owing to *D* and $600 owing to *C* on loans. After realization, the cash on hand amounts to $7,500.

Prepare a statement of liquidation.

Problem 3-3. Stevens, Carl, Jones, and Brown are partners, sharing earnings in the ratio of $\frac{3}{21}$, $\frac{4}{21}$, $\frac{6}{21}$, and $\frac{8}{21}$. The balances of their capital accounts on December 31, 1960, are as follows:

Stevens	$ 1,000
Carl	25,000
Jones	25,000
Brown	9,000
Total	$60,000

The partners decide to liquidate, and they accordingly convert the noncash assets into $23,200 of cash. After paying the liabilities amounting to $3,000, they have $22,200 to divide.

Prepare a liquidation statement showing how the cash is to be distributed.

Problem 3-4. The ledger of Howell and Jackson shows the following balance sheet accounts before liquidation.

Noncash assets	$83,400	Liabilities	$41,420
		Howell, capital	24,250
		Jackson, capital	6,730
		Howell, loan	5,000
		Jackson, loan	6,000
	$83,400		$83,400

The assets were sold for $46,000. Prepare two statements showing the liquidation of the partnership, one under the assumption that the profit and loss ratio was Howell 70% and Jackson 30%, and the other under the assumption that the profit and loss ratio was Howell 80% and Jackson 20%.

Problem 3-5. William West and Burton Bishop are partners, sharing profits equally. Their accounts stand as follows:

Assets		Liabilities and Capital	
Cash	$ 950	Accounts payable	$13,600
Accounts receivable	3,600	William West, capital	7,500
Merchandise	8,200	Burton Bishop, capital	2,500
Land and buildings	10,850		
	$23,600		$23,600

They decide to liquidate, and the assets realize the following amounts in cash:

Accounts receivable	$2,100
Merchandise	5,600
Land and buildings	8,000

Prepare journal entries for the liquidation of the partnership. If necessary, assume that any capital deficiency is uncollectible.

Problem 3-6. On January 1, 1958, Alton and Bestor formed a partnership, the terms of which specified that all profits and losses were to be shared equally, and that no interest was to be credited on the investments or charged on the withdrawals.

Alton invested $25,000 and Bestor invested $20,000. The books had not been closed, but the capital accounts had been charged with drawings.

On August 31, 1960, the partnership was dissolved; the books had been very poorly kept, and, as a result, the following statement was presented to the partners as a basis for settlement and was agreed to by them:

Debits	
Cash	$15,100
Expenses	16,700
Alton, capital	5,100
Revenue and expense	8,000
Real estate (estimated value)	3,500
Credits	
Bestor, loan	$11,200
Bank loan (six-month, 6% note due October 31, 1960)	11,000

Interest on the bank loan is unpaid as of August 31, 1960.

The real estate was sold for $3,300, and the note was paid when due.

Prepare a statement of partners' capital accounts from the formation of the partnership through November 1, 1960, when any available cash was distributed to the partners. If necessary, assume that it is not known whether a debit balance in a partner's account is collectible.

Problem 3-7. G. W. Shelley and S. E. Mayo enter into partnership on January 1, 1960, investing $24,000 and $18,000, respectively, and sharing earnings in the capital ratio. They operate two offices, one under the management of each partner. Receipts and disbursements of business cash during the year, handled through the partners' personal bank accounts, are as follows:

	Shelley	Mayo
Receipts	$50,925	$41,330
Disbursements	32,140	50,965

The business, exclusive of any cash, is sold on December 31, 1960, for $50,000. How should the $50,000 be divided between the partners?

Problem 3-8. The firm of Katchel, Lownes, and Macy was insolvent. Prepare a statement showing the expected payments to creditors and partners under the common-law rule, assuming that the creditors of the partnership will collect on their deficiency from Katchel.

Cash	$49,350	Liabilities	$53,620
Katchel, capital	17,840	Lownes, capital	2,140
		Macy, capital	6,430
		Macy, loan	5,000
	$67,190		$67,190

Profits were shared as follows: Katchel, 60%; Lownes, 25%; and Macy, 15%. The personal balance sheets of the partners show the following:

	Katchel	Lownes	Macy
Assets	$13,125	$15,628	$36,170
Liabilities	8,410	16,100	1,800

Problem 3-9. Owing to the insolvency of Bruce, the firm of Arnold, Bruce, and Camp is compelled to liquidate. They share profits in the ratio of 40:35:25. After closing, the account balances are as follows:

Cash	$ 23,400.00	Liabilities	$ 42,140.00
Accounts receivable	48,650.00	Arnold, capital	63,445.00
Merchandise	37,108.00	Bruce, capital	8,642.00
Fixed assets	38,580.00	Camp, capital	33,511.00
	$147,738.00		$147,738.00

A new firm, Arnold and Camp, is formed. It agrees, with the creditors' consent, to assume the liabilities of the old firm, and to take over the assets of the old firm at the following values:

Cash	$23,400.00
Accounts receivable	41,300.00
Merchandise	25,200.00
Fixed assets	27,100.00

All creditors are paid 50 cents on the dollar at once and given notes for the remainder of their claims. Arnold invests $10,000.00 and Camp $5,000.00 in cash to restore the cash position of the firm. The claim against Bruce is to be carried at its realizable value under the common-law rule as an asset of the new partnership until settled.

Bruce has personal assets of $7,886.52 and owes personal creditors a total of $17,600.00.

(a) Prepare a statement showing the changes in capital brought about by the dissolution of the old partnership.

(b) Prepare a balance sheet of the new partnership. You may use December 31, 1960, as the date.

Problem 3-10. The affairs of the partnership of Colton and Corning have become involved, owing to Colton's habit of mingling his personal and partnership affairs. Colton and Corning began business with capitals of $30,000 and $20,000, respectively, and share profits in the same ratio. Corning wishes to withdraw, and asks you to determine his interest. A balance sheet prepared from the firm's ledger follows.

COLTON AND CORNING
Balance Sheet
December 31, 1960

Assets		Liabilities and Capital	
Cash	$ 7,320	Liabilities	$18,344
Other assets	63,170	Colton, capital	24,193
		Corning, capital	27,953
	$70,490		$70,490

You learn that Colton has paid out of the partnership funds certain mortgage notes on properties he owned. These, together with interest, amounted to $18,364. In addition to this, Colton sometimes collected accounts and deposited the money

in his own account. When the bookkeeper learned of such collections, he would credit the account receivable and debit Colton's capital account. These collections were determined to be $13,580, of which $3,460 have not yet been recorded on the books.

On the other hand, at one time Colton satisfied a judgment of $21,300 against the firm by deeding to the claimant property which had cost Colton $16,420 and was valued at $20,000 at the time of the settlement. This judgment had never been recorded on the books.

The cash balance has been reconciled with the bank account, and the liabilities are correctly stated. Colton offers to take over all the noncash assets at $50,000 and Corning agrees to the offer.

How much will Corning receive in liquidation?

Problem 3-11. Jones and Johnson have been partners in a successful business for a number of years. They decide to admit two of their employees to partnership on the following basis of profit sharing: Jones, 45%; Johnson, 30%; Jennis, 15%; and Jergen, 10%.

It is agreed that Jennis and Jergen will not be required to make any capital contributions, but it is provided that in the event of the sale of the assets of the business within five years, Jones and Johnson alone will share in the proceeds of any goodwill.

Three years after the admission of the employees to partnership, an offer of $185,000 is received for the noncash assets of the partnership. Business currently is depressed, so the partners decide to accept the offer. After closing, the ledger shows the following account balances:

Debits	
Cash	$ 20,000
Accounts receivable	28,000
Notes receivable	35,000
Inventory	50,000
Delivery truck—net	1,020
Building—net	85,000
Land	7,980
Jennis, capital	19,990
	$246,990
Credits	
Accounts payable	$ 15,000
Notes payable	12,000
Jergen, loan	2,000
Jones, capital	100,460
Johnson, capital	115,330
Jergen, capital	2,200
	$246,990

The partners pay all liabilities and distribute the balance of the cash to the partners. If necessary, you may assume that it is not known whether a partner will be able to cover his debit balance.

Prepare a statement of partnership liquidation.

Problem 3-12. Walsh, Anderson, and Graham, all active in the auto business, believed they could operate advantageously as a partnership. On January 1, 1959, the three men accepted, as the basis for organizing a firm, the plan outlined below:

Capital contributions:

Walsh to contribute a garage building.

Anderson, a mechanic, to sell his repair shop and invest in the new firm the cash realized by such sale and his small equipment and tools.
Graham to transfer to the firm a used car lot, including an inventory of used cars.
Earnings to be shared equally.

Walsh acted as office manager, and also undertook to keep a double-entry set of accounts, but failed to keep them in balance during 1960. He also charged all of the partners' drawings to one drawings account, and when the accounts were closed as of December 31, 1959, he treated the $12,600 of drawings as an expense.

After nineteen months of operations, the partners disagreed over policies and decided to liquidate the business. Therefore, on July 31 Walsh closed the books and prepared the following list of account balances.

Cash	$ 12,600	
Inventory of used cars	12,000	
Garage	14,000	
Used car lot	3,000	
Small equipment and tools	1,400	
Noninterest-bearing note payable		$ 2,000
6% first mortgage payable—interest payable January and July 31		9,000
Walsh, capital		14,300
Anderson, capital	1,300	
Graham, capital		12,200
Sales		70,000
Expenses	61,000	
Partners' drawings	7,000	
	$112,300	$107,500

On August 12, the noncash assets of the partnership and the mortgage were taken over by Walsh for $20,200, which was charged against his capital account. Interest on the mortgage had not been paid when due on July 31, 1960, but $270 thereof was paid on August 5. On August 10, the note was paid in full.

The partners agree that the following drawings were made:

	Walsh	Anderson	Graham
1959	$5,000	$4,000	$3,600
1960	2,800	2,500	1,700

Prepare a statement showing the interests of the partners as of July 31, 1960, and a statement of liquidation covering the period from July 31, 1960 through August 15, 1960, when the remaining cash on hand was distributed to the partners.

Assignment Material for Chapter 4

Questions

Question 4-1. Wherein lies the danger of making liquidating distributions to partners before the partnership assets are all realized and the liabilities all paid?

Assume that all partnership liabilities have been paid, but that the partnership assets have not all been realized. How can a liquidator safeguard himself if he wishes to make partial payments to the partners?

If the liabilities have not all been paid, how may the liquidator safeguard himself in making partial payments to the partners?

Question 4-2. You are to direct the liquidation of the firm of *A* and *B*.

A AND B
Balance Sheet
December 31, 1960

Assets		Liabilities and Partners' Capitals	
Cash	$ 15,000	Liabilities	$ 5,000
Other assets	100,000	*A*, capital	40,000
		B, capital	70,000
	$115,000		$115,000

Assume that the partners estimate that $2,000 of expenses will be incurred in connection with the liquidation of the firm. How much of the $15,000 of cash can safely be distributed to the partners as an installment, and how much would be paid to each partner?

Question 4-3. How would the credit balance in a partner's unpaid salary account be treated in the installment liquidation of a partnership?

Question 4-4. When, if ever, is it acceptable to distribute the cash received from installment realization of partnership assets in the profit and loss ratio?

Question 4-5. Assume that a partnership is to be liquidated in installments. What consideration, if any, should be given to the partners' loan accounts in determining the amounts which can be paid to them in installments?

Question 4-6. Assume that a partner had a loan account and a capital account, and that the sum of the balances of both accounts was less than his possible losses on future realization. The other partner had only a capital account, but its balance exceeded his possible loss. Would it be permissible to waive the rule requiring payments of loans before capital and to make a payment on the second partner's capital account before making any payments on the first partner's loan account?

Question 4-7. How would a note receivable from a partner be treated in the installment liquidation of a partnership?

Question 4-8. Under what circumstances might a partner having a smaller capital account balance than the other partners receive more cash than the other partners from liquidation of the firm?

Question 4-9. The balance sheet of Smith and Schmidt appears on the opposite page.

SMITH AND SCHMIDT
Balance Sheet
October 31, 1960

Assets		Liabilities and Partners' Capitals	
Cash	$ 22,000	Payable to Smith for services as liquidator	$ 6,000
Other assets	128,000	Smith, capital	55,000
		Schmidt, capital	89,000
	$150,000		$150,000

Smith suggests that, since cash is available, the liability to him for services as liquidator be paid. Present your opinion relative to the propriety of making this payment.

Question 4-10. You have been consulted in reference to the liquidation of the firm of Dover and Duncan, whose balance sheet follows:

DOVER AND DUNCAN
Balance Sheet
December 31, 1960

Assets		Liabilities and Partners' Capitals	
Noncash assets*	$76,000	Accounts payable	$ 6,000
		Dover, capital	30,000
		Duncan, capital	40,000
	$76,000		$76,000

* Includes a $6,000 note receivable from Dover.

Profits and losses are shared 60% to Dover and 40% to Duncan.

The partners desire to avoid the necessity of consulting you whenever cash becomes available for distribution from the realization of noncash assets. Is it possible to prepare a plan showing how any cash which may become available should be distributed? If so, illustrate the procedure, using the information presented above.

Problems

Problem 4-1. Romean, Julien, Copar, and Dogmen, partners, decide to liquidate their business. All losses on the partial realization of assets to date have been charged off, there are no liabilities, and the partners' capitals are $20,000, $14,800, $13,200, and $18,000, respectively.

There is $6,000 of cash on hand to distribute to the partners, whose profit and loss ratios are as follows:

Romean	26%
Julien	19
Copar	25
Dogmen	30
	100%

Prepare a schedule showing how the cash should be distributed.

Problem 4-2. The partners of the firm of Durant and Company began liquidating the business on July 1, 1960, at which time the partners were sharing profits and losses 30% to Greer and 70% to Durant. The balance sheet is on page 592.

DURANT AND COMPANY
Balance Sheet
July 1, 1960

Assets			Liabilities and Partners' Capitals		
Cash		$ 4,400	Accounts payable		$16,200
Receivables		11,200	Durant, loan		7,000
Inventory		19,700	Durant, capital	$16,600	
Equipment	$32,600		Durant, drawings	100	16,500
Less accumulated depreciation	15,400	17,200	Greer, capital	$15,500	
			Greer, drawings	2,700	12,800
		$52,500			$52,500

During the month of July the partners concentrated on disposing of the inventory and realized a total of $16,000 from the entire inventory. Collections of receivables amounted to $1,300 during the month, with no losses.

Prepare a liquidation statement and accompanying schedule showing how the cash on hand should be distributed on July 31, 1960.

Problem 4-3. Prepare schedules showing the first distribution to partners in each of the following cases.

Condition at beginning of liquidation, after payment of liabilities:

		Profit and Loss Ratios		
Partners	Capitals	Case 1	Case 2	Case 3
A	$20,000.00	40%	20%	15%
B	25,000.00	15	25	35
C	15,000.00	15	20	15
D	5,000.00	5	15	20
E	10,000.00	25	20	15
Total	$75,000.00	100%	100%	100%
Cash for division	5,000.00			
Remainder	$70,000.00			
Cash on hand to be held for expenses, etc.	1,000.00			
Noncash assets	$69,000.00			

Problem 4-4. *A*, *B*, *C*, and *D* have decided to dissolve partnership. To that end, they have liquidated all of their liabilities, and at the date of the first division of cash among the partners the conditions are as shown in the following tabulation:

Partners	Partners' Capitals	Partners' Loans	Profit and Loss Ratio
A	$24,000	$ 8,000	40%
B	21,000	6,000	30
C	14,000	14,000	20
D	23,000		10
Totals	$82,000	$28,000	100%
Cash available for distribution			$ 21,000
Other assets not yet realized			89,000
Total			$110,000

Prepare a liquidation statement and accompanying schedule showing the $21,000 installment distribution to the partners.

Problem 4-5. The partnership of Mason, Nash, and Otis presents the balance sheet on the opposite page.

MASON, NASH, AND OTIS
Balance Sheet
(Date)

Assets		Liabilities and Partners' Capitals	
Cash	$ 6,230	Liabilities	$18,462
Nash, capital	3,880	Mason, capital	17,144
Other assets	74,160	Otis, capital	48,664
	$84,270		$84,270

The profits were shared as follows: Mason, 55%; Nash, 30%; and Otis, 15%. During the first month, assets carried at $23,100 were sold for $20,600, and the cash was distributed.

During the second month, assets recorded at $38,750 were sold for $21,460, and the cash was distributed.

During the third month, the remainder of the "other assets" were sold for $2,800, and it was discovered that no collections could be made from Nash. Mason is fully solvent.

Prepare a statement showing the progress and completion of the liquidation, with supporting schedules.

Problem 4-6. *A*, *B*, and *C* were in partnership, *A*'s capital being $90,000, *B*'s $49,950, and *C*'s $50,000. Their agreement is to share profits in the following ratio: *A*, 60%; *B*, 15%; *C*, 25%. During the year *C* withdrew $10,000. Net losses of the business during the year were $15,000, and it is decided to close out the business. It is uncertain how much the assets will ultimately yield, although none of them is known to be bad. The partners therefore mutually agree that, as the assets are liquidated, distribution of cash on hand shall be made in such a manner as tc avoid, so far as feasible, the possibility of paying one partner cash which he might later have to repay. Unpaid liabilities amount to $4,000 and there is cash on hand of $800.

Prepare a cash distribution plan showing how the cash, as it becomes available, should be paid out.

Problem 4-7. The following schedule shows the facts concerning capital investments in a firm which is about to be liquidated.

	Profit and Loss Ratio	Capital Balances	Drawing Balances (Debit)	Loan Account Balances
Smith	50%	$ 81,000		$15,000
Brown	30	42,000		12,000
Jones	20	49,000	($7,000)	
Totals	100%	$172,000	($7,000)	$27,000

Total book values of the assets of the firm, including cash of $9,500, amount to $199,000.

Required:

(a) A cash distribution plan showing the proper distribution of cash as it may become available.

(b) A schedule to show the division of the first $27,000 of cash distributed to partners, an amount equal to the partners' loan accounts.

Problem 4-8. Dale, Files, and Garth, partners, decide to liquidate. The balance sheet of the partnership is on the following page.

DALE, FILES, AND GARTH
Balance Sheet
(Date)

Assets		Liabilities and Partners' Capitals	
Cash	$ 16,400	Mortgage payable	$ 30,000
Other assets	101,860	Other liabilities	15,450
Fixed assets	42,300	Dale, capital	64,000
		Files, capital	32,100
		Garth, capital	19,010
	$160,560		$160,560

The partners shared earnings in the ratio of 60:30:10.

During the first month, assets carried at $40,000 were sold for $32,000, but, since the mortgage payments were not due, no such payments were made.

During the second month, the mortgagee agreed to take the fixed assets in settlement of the mortgage and to pay $5,000 additional consideration. Other assets carried at $26,000 were sold for $19,000.

During the third month, assets carried at $29,500 were sold for $15,000.

During the fourth month, the partners were unable to dispose of any of the remaining assets for a price. The remaining assets were given away and the partnership was terminated.

Prepare a statement, with supporting schedules, showing the liquidation and cash payments by months.

Problem 4-9. Four partners, who are about to liquidate their firm, close their books and prepare the following data:

			Profit and Loss Ratio
Cash	$ 5,000		
Other assets	150,000		
Liabilities		$ 20,000	
A, capital		40,000	30%
B, capital		30,000	20
C, capital		40,000	20
D, capital		25,000	30
	$155,000	$155,000	

It is agreed that *A*, *B*, and *C* shall be free immediately to enter other businesses, and that *D* shall liquidate the business and be allowed a commission, credited to his capital account and chargeable as a partnership expense, of 2% of all cash collected.

The following is a summary of the liquidation. You are to determine the commission allowable to *D*, and to show the monthly distributions to the partners.

	First Month	Second Month	Third Month	Fourth Month
Assets realized	$40,000	$35,000	$30,000	$45,000
Loss	1,000	1,000	1,000	5,000
Cash collected	$39,000	$34,000	$29,000	$40,000
Expenses paid in cash	320	320	420	600
Balance	$38,680	$33,680	$28,580	$39,400
Payments to creditors	8,000	4,000	8,000	
Balance	$30,680	$29,680	$20,580	

Prepare a statement of partnership liquidation, with supporting schedules.

Problem 4-10. The partnership of Frost, Flint, and Fraser presented the following data prior to its liquidation. The profit and loss ratio was 4:4:2.

Noncash assets	$93,650	Liabilities	$18,430
		Frost, capital	34,160
		Flint, capital	16,630
		Fraser, capital	24,430
	$93,650		$93,650

During the first month, assets carried at $18,500 were sold for $15,000 and the cash was distributed. During the second month, assets carried at $22,400 were sold for $18,000. At that time, Flint was anxious to get his money out of the partnership in order to get started in another business. He offered to take $10,000 from the second realization as his final payment, releasing the other partners from all other claims. The other partners agreed. All cash was distributed.

During the next three months the remaining assets were sold for $35,000.

(a) Prepare a statement showing the progress of the liquidation.
(b) How much did Frost gain or lose by accepting Flint's offer?

Problem 4-11. Prepare a statement of partnership liquidation, with supporting schedules, showing the progress of the following liquidation. The profit and loss ratio was *W*, 40%; *Q*, 35%; *R*, 25%.

Cash	$ 4,000	Liabilities	$12,000
Other assets	92,000	*Q*, loan	10,000
		R, loan	5,000
		W, capital	28,900
		Q, capital	25,100
		R, capital	15,000
	$96,000		$96,000

Realizations	Assets Carried at	Cash Realized	Expenses of Realization	Cash Withheld at End of Month for Estimated Future Expenses
1st month	$24,000	$21,000	$1,000	$4,000
2nd month	14,000	12,000	1,500	2,500
3rd month	30,000	20,000	1,200	1,000
4th month	24,000	8,000	800	—0—

It is to be understood that all cash available, except the amount withheld for future expenses, is distributed at the end of each month.

Problem 4-12. Use the data in Problem 4-11 and prepare the following:

(a) A cash distribution plan prepared as of the start of the liquidation.
(b) A schedule showing the cash payments actually made at the end of each month to the creditors and partners, based on the plan prepared in (a).

Carry computations to the nearest dollar.

Problem 4-13. Yoder, Fonder, West, and Woods have agreed to dissolve their partnership. At this time the partners' equities appear as follows:

	Yoder	Fonder	West	Woods
Capital accounts	$24,240	$32,000	$28,400	$43,000
Partners' loans	5,400	10,000	2,000	9,000
Drawing accounts	4,600	7,000	5,400	4,040
Profit-sharing ratios	40%	25%	20%	15%

The liabilities amount to $33,700. Assets are realized as follows:

	Assets Realized	Cash Received	Expenses Paid
First month	$60,300	$22,400	$4,600
Second month	74,500	28,900	3,200
Third month	26,800	30,000	300

The total cash at the time liquidation started was $5,100. The partners have no personal assets.

Prepare a liquidation statement, with supporting schedules, showing how cash available at the end of each of the three months is to be distributed and how the partners' accounts are to be closed when liquidation is completed.

Problem 4-14. Brown, King, and Phelps are partners, sharing profits in the ratio of 3:2:1. Their balance sheet follows.

BROWN, KING, AND PHELPS
Balance Sheet
December 31, 1960

Assets		
Cash		$ 11,014
Accounts receivable	$57,911	
Less allowance for doubtful accounts	2,100	55,811
Inventory		29,000
Prepaid expenses		200
Phelps, loan		2,000
Building site		7,000
Building	$34,500	
Less accumulated depreciation	12,500	22,000
Equipment	$27,325	
Less accumulated depreciation	16,110	11,215
Goodwill		30,000
		$168,240
Liabilities		
Accounts payable		$ 25,819
Accrued expenses		300
King, loan		10,000
Mortgage payable		18,000
Total liabilities		$ 54,119
Partners' Capitals		
Brown, capital	$66,411	
King, capital	38,019	
Phelps, capital	9,691	114,121
		$168,240

The firm discontinued operations on January 1, 1961, as a result of a decision by the partners to dissolve the partnership and liquidate the business. It was agreed that Phelps would be in charge of the liquidation and for such services would be compensated in the amount of $3,600.

On January 31, 1961, Phelps submitted the following condensed interim report of his activities:

Cash receipts during January from collections and realizations	$54,541
Cash disbursed during January for expenses	3,360
Cash disbursed to settle the accounts payable and accrued expenses as of December 31, 1960	25,320

Estimated future expenses:	
To outsiders	2,400
To Phelps	3,600

Brown's offer to purchase the building and site for $25,000 by assuming the mortgage and having the balance charged to his capital account was accepted by the other partners.

Required:

(a) A statement showing the amount of cash available for distribution to the partners as of January 31, 1961, after reserving the full amount estimated to be required to complete the liquidation.

(b) Working papers to show how the cash available on January 31, 1961, should be distributed to the partners.

Assignment Material for Chapter 5

Questions

Question 5-1. Define the term "venture" as it is used in accounting.

Question 5-2. Describe two methods which may be used to record the transactions of a joint venture.

Question 5-3. Assuming that a separate set of books is not to be kept, describe how each participant will record each of the transactions listed below.

(a) Merchandise contributions.
(b) Cash contributions.
(c) Expenses paid from the venture funds.
(d) Expenses paid by one of the participants.
(e) Sales.
(f) Cash withdrawals.
(g) Closing of books and distribution of a gain.
(h) Final cash settlement.

Question 5-4. How are gains and losses from joint ventures shared?

Question 5-5. Under what circumstances is it inadvisable to adjust the venture accounts to recognize an interim gain before the venture is completed?

Question 5-6. List several conditions that would tend to favor the adoption of a separate set of books for a joint venture rather than incorporating the venture transactions in the books of the participants.

Question 5-7. Describe the balance sheet presentation for uncompleted ventures.

Question 5-8. Assuming that a separate set of books is maintained for a joint venture, describe the nature of the entries typically found in the Joint Venture account in the books of a participant.

Problems

Problem 5-1. Newman and Coleman formed a joint venture to acquire and sell a particular lot of merchandise. Newman was to manage the venture and Coleman to furnish the capital, and they were to share equally in any gain or loss. On May 5, 1961, Coleman sent Newman $10,000 cash, which was immediately used to purchase merchandise which cost $10,000. Newman paid freight of $240 on the merchandise purchased. On May 19, one-half of the merchandise was sold for $7,200 cash. Newman paid the cost of delivering merchandise to customers, which amounted to $360. No further transactions occurred through May 31, 1961.

A separate set of books is maintained for the venture.

Required:

(1) Entries on the books of each participant to record venture transactions.
(2) The necessary adjusting entry on the books of Newman on May 31, 1961, assuming that he closes his books on that date and that he desires to recognize the gain on the uncompleted venture.
(3) The presentation on Newman's May 31, 1961 balance sheet of all items related to the joint venture.

Problem 5-2. In a certain joint venture, Craig was to supply merchandise, Bass was to provide funds, and Drake was to sell merchandise. Drake was to be allowed commissions of 3% on the gross amount of all collected sales. Craig and Bass were to be credited with interest at 6% on all amounts outstanding.

On May 1, Craig shipped merchandise valued at $12,000 to Drake, who received it on May 10, when he paid freight and insurance charges of $449 on it. On May 7, Bass sent Drake $10,000. On May 26, Drake purchased more merchandise for $9,200. Drake made various sales amounting in all to $16,000. These were collected less a 2% cash discount on June 20th, with the exception of accounts totaling $1,200, one of which, amounting to $960, was considered uncollectible and was written off. On June 30, Drake sold more merchandise for $8,000, which was collected, less 2%, on July 10. Drake was unable to sell the rest of the merchandise, and Craig agreed to take it at $780, which he did on July 30. On that day the venture was closed and settlements were made. Drake agreed to accept the uncollected account at its face value.

The first method of keeping joint venture accounts is to be used.

(a) Prepare the journal entries, in columnar form, for all sets of books.
(b) Show the Joint Venture account as it will appear on all sets of books.
(c) Show the account with each participant as it will appear on the books of the other participants.
(d) Show how Craig will present the facts relating to the venture in his balance sheet on June 30.

Problem 5-3. Refer to Problem 5-2. Record the transactions described in that problem, using the second method of accounting for joint ventures.

(a) Prepare journal entries, in columnar form, for the four sets of books.
(b) Show how each participant will show the facts relating to the venture in his balance sheet on June 30. You may assume that Drake does not withdraw his commission until the close of the venture.

Problem 5-4. During the year 1961, L. S. Cross has been the manager of a joint venture conducted with A. R. Lotus and H. B. Dunham. On the completion of the venture, Cross is to receive a bonus of 10% of the venture gain, before deducting the bonus as an expense. The venture is completed as of July 31, 1961. On this date the accounts of Lotus and Dunham include the following debit and credits:

	On Books Of	
	Lotus	Dunham
Account with Cross	$ 813.75 Cr.	$813.75 Cr.
Account with Dunham	1,811.60 Cr.	
Account with Lotus		912.35 Dr.

The venture is still carrying unsold merchandise, which Cross agrees to take over at its cost of $2,114.30. The bonus to Cross has not been recorded.

The venture agreement is silent about the division of gains and losses.

Prepare entries on the books of Lotus and Dunham to record the closing of the venture and the final settlement among the participants, starting with the above balances.

Problem 5-5. Frank Fuller was a participant in a joint venture with Paul Pelham. Both men were individual proprietors of their own wholesale businesses.

On June 10, 1961, Fuller shipped merchandise which cost $8,000 to Pelham, who was to manage the venture. Pelham recorded the receipt of the merchandise by debiting Purchases and crediting an account with Fuller. On June 20, 1961,

Fuller mailed a check to Pelham for $5,000, which the latter recorded by debiting Cash and crediting the account with Fuller.

A summary of the joint-venture activity during the month of June is submitted below. It was secured by analyzing the accounts used by Pelham to account for the affairs of his own wholesale business, since he failed to set up a Joint Venture account.

Contributions to venture:	
Merchandise—at cost:	
Pelham	$ 6,000
Fuller	8,000
Cash:	
Fuller	5,000
Cost of special merchandise purchased for joint venture	4,000
Expenses paid by Pelham:	
Advertising	400
Freight on merchandise contributed by Fuller	300
Delivery of merchandise sold	200
Sales—all of the merchandise contributed and purchased by Pelham and one-half of that contributed by Fuller—selling price	14,000

Required:

(a) Adjusting entries on the books of Pelham on June 30, 1961, to set up a Joint Venture account. Include whatever entry is required to give recognition to the gain or loss on the uncompleted venture. Pelham's books have not been closed. Disregard interest.

(b) The presentation in Pelham's June 30, 1961 balance sheet of all items related to the joint venture.

Problem 5-6. MacDonald and McQuarrie entered a joint venture to subdivide some acreage. Inasmuch as the venture was likely to extend over a long period of time, separate books were maintained for the joint venture. On June 15, MacDonald sent $20,000 to McQuarrie, which was to earn 6% until repaid. McQuarrie was to carry on operations and to receive a 5% commission on all sales and 40% of any gain resulting from the venture.

On July 1 he purchased the land for $48,000, giving a 6% mortgage for $33,000 and cash in payment. Interest is payable semiannually, or upon payment of any installment if paid earlier. On August 1 MacDonald advanced an additional $22,000 on the same terms, to be used to pay for improvements. The actual cost of the improvements was $19,000. By December 31 sales totaling $52,000 had been made and collected in cash. The unsold land at that date was inventoried at cost at $44,100. Advertising, office expenses, and other expenses, in the amount of $11,420, exclusive of commissions and interest, had been paid. The mortgage was reduced by $5,000 on September 30, $8,000 on October 31, $6,000 on November 30, and $4,000 on December 31; interest was paid for 3, 4, 5, and 6 months on these installments. All commissions earned by McQuarrie were paid to him on December 31; interest was allowed MacDonald for 6½ months on his first contribution and for 5 months on his second contribution; and all cash on hand in excess of $5,000 was returned to MacDonald.

MacDonald requests statements showing his share of any gain to date and the financial position of the venture.

(a) Prepare the journal entries for the venture books.
(b) Prepare the journal entries for MacDonald's books.
(c) Prepare the statements requested by MacDonald.

Problem 5-7. The following Joint Venture account reflects the transactions of the venture of Hinds, Lear, and Armour as recorded by each participant.

Joint Venture

1961				1961			
Nov.	6	Merchandise—Armour	8,500	Nov.	20	Cash sales—Hinds	20,400
	8	Merchandise—Lear	7,000	Dec.	12	Cash sales—Hinds	4,200
	10	Freight paid—Hinds	200		28	Merchandise—Lear	1,210
	12	Advertising—Hinds	150				
Dec.	8	Purchase—Hinds	3,500				
	14	Selling expense—Hinds	400				

The venture agreement provided for the division of gains or losses among Armour, Lear, and Hinds in the ratio of 2:3:5. The venture was to close as of December 31, 1961.

Required:

(1) Journal entries on the books of Lear for the joint venture transactions, assuming that the perpetual inventory method is being used.
(2) Journal entries on the books of each participant to record:
  (a) Division of venture gain or loss.
  (b) Final settlement among the participants, assuming that all transactions of the joint venture are shown in the above account.

Problem 5-8. Samuel George, who is in the real estate business, arranges with Y. E. Stevens and Arthur Corona to purchase a parcel of ground and to erect buildings for sale or rent. Contributions of capital and distributions of earnings are to be equal.

George takes from Henry Gamble title to 200 feet of land at 3030-34 Simons Avenue for a consideration of $9,000.00, paying $4,000.00 cash and giving back mortgages on the property at 3034 for $2,000.00 and at 3030 for $3,000.00. He pays $70.50 for bringing the abstract down and for recording fees.

He sells a 20-foot strip off the back of the property for $920.00 cash.

Twin houses are erected by Corona on the remaining property at a cost of $7,015.00 each. A second mortgage of $5,000.00 on each of the pieces of property is executed jointly by the three partners, and the proceeds of the two mortgages are turned over to Corona in part payment for the houses. The mortgagee, however, deducts $60.75 insurance premium on the two houses before turning over the proceeds.

George pays Corona $1,500.00 in cash.

Corona submits a bill of $810.10 for a garage and extras on the property at 3030.

The property at 3030 is sold to Max Tosty for $15,150.00, $500.00 earnest money being received.

Stevens and Corona each pays $1,000.00 to George, who pays off the original mortgage on this property, plus interest of $41.10. Tosty then assumes the $5,000.00 mortgage on the property, including interest amounting to $210.00, and gives back a second mortgage of $3,500.00, paying the balance in cash.

The gain on the property sold need not be computed, nor need separate accounts be opened for the respective pieces.

Record these transactions on the books of George, and draw a trial balance of the syndicate transactions; then show what amount should be paid by one or more members of the joint account to others, to equalize their respective investments.

Problem 5-9. Hilliard, Zimm, and Jeffrey entered a venture on September 30, 1961, to dispose of their holdings of the common stock of Georgia Timberlands Company. Gains or losses are to be shared in proportion to the number of shares contributed to the venture.

Hilliard contributes 6,000 shares, which had cost him $42 a share; Zimm, 10,000 shares, which had cost him $58 a share; and Jeffrey, 4,000 shares, which had cost him $62 a share.

The market value of the shares when the venture began was $40 a share. Zimm was to handle the liquidation for a flat fee of $3,000 plus his expenses.

On October 20 he sold 4,500 shares at an average price of $44 a share.

On November 1 Georgia Timberlands Company distributed a stock dividend of 20%. Zimm sold 5,000 shares, ex-stock-dividend, on November 5 for $25 a share. On November 15, the company paid a cash dividend of $1 a share. On November 22 he sold 6,000 shares for $28. The remainder of the shares were sold on December 20 for $35 a share. Zimm's expenses totaled $4,700. A distribution of the proceeds was made on December 31.

(a) Prepare the journal entries as they should be recorded on Hilliard's books.
(b) Submit the Joint Venture account as it appears on all sets of books.
(c) What was Hilliard's total gain or loss on the disposition of his stock investment?

Problem 5-10. Ten men went on a fishing trip. *A*, *B*, *C*, *D*, *E*, *F*, *G*, and *H* were with the party ten days; *J* left at the end of four days, and *K* left at the end of six days. Each was to pay his traveling expenses, fishing license fee, and any personal expenses. The cost of board and room at the resort, guides' fees, bait, fishing boat rentals, tips, and so forth, was to be charged to each member of the party in proportion to the time spent.

The bill rendered by the resort at the end of ten days included the following items:

Fishing licenses—*A*, *B*, *J*, and *K*	$ 12
Board and room	400
Guides	100
Packing fish for shipment	5
Cigars—*D*	3
Long-distance telephone—*A*	2
Total	$522

Cash in the amounts shown below was contributed by the ten men for the payment of this bill.

A	$ 85
B	75
C	60
D	80
E	60
F	45
G	45
H	30
J	25
K	17
Total	$522

Other payments made by members of the party for group expenses are shown on the following page.

B—Rent of boats at Trout Lake	$ 10
E—Rent of boats at Loon Lake	15
G—Rent of launch for pleasure tour—As *A*, *C*, *E*, *J*, and *K* were not on this tour, they are not to be charged with any of the expense	30
C—Tips	10
Total	$ 65

F was asked to prepare a report showing the final settlement. To those who had paid more than their share of the joint expense, he remitted his personal checks; those who had paid less than their share were requested to remit to *F*.

Prepare a report such as *F* might have rendered.

Problem 5-11. Harvey, a general contractor, entered into a venture building small homes with Moon, a plumbing and heating contractor, and Gumball, an electrical contractor.

Twenty-five homes were to be constructed by the participants in 1961 on land owned by Harvey. It was agreed that each participant would bill the venture monthly for the cost of all materials and labor, and that drawings would be permitted against such billings from a fund to be created by securing advances from a local bank, with the land and houses, completed and under construction, pledged as security.

It was further decided that Harvey was to receive a flat price of $45,000 for the land, which cost him $28,000, and that he would supervise the rough grading, cement work, and landscaping without compensation. A local real estate agent agreed to sell all of the homes for a commission of four per cent of selling price, on the condition that he be given an exclusive agency for the sale of these homes.

Net income, after all costs to the venture, was to be divided as follows: Harvey, 60%; Moon, 30%; and Gumball, 10%. Each participant has agreed to inform the others of his expenditures in behalf of the joint venture by submitting monthly reports.

Transactions for the venture were as follows:

April 1. $42,000 was advanced by the bank to a separate bank account established for the venture. The venturers signed the loan agreement with the bank, each thereby agreeing to be personally liable for one-third of the advance. Any participant may draw on the account, but it is understood that, as a general rule, the joint venture bank account will be drawn on only to reimburse the participants for amounts spent in behalf of the venture.

April 26. A check for $2,500 was drawn on the venture bank account for the rough grading of the land.

May 31. Costs incurred to this date were: Harvey, $47,800; Moon, $16,300; monthly reports were submitted.

June 7. Harvey drew $30,000 from the venture bank account to meet his operating requirements.

June 23. An additional $60,000 was advanced by the bank to the venture on the same terms as above.

June 30. Costs incurred during June were as follows: Harvey, $64,700; Moon, $37,400; Gumball, $9,300. Monthly reports were submitted.

July 1. Withdrawals were made from the venture bank account as follows: Moon, $35,000; Gumball, $10,000.

July 6. Harvey wrote a check on his own bank account in the amount of $2,980 for cement sidewalks. Harvey charged this to the venture, but failed to include the item in his July report to the participants.

July 8. Withdrawals were made from the venture bank account: by Harvey, $15,000; by Moon, $5,000.

July 20. Ten completed houses were sold at a total price of $172,000. The net proceeds from the real estate agent, after deducting his commission, were deposited in the venture bank account. A check was then drawn in favor of the bank for $51,500, $500 of which was for interest.

July 21. Harvey paid the property taxes on the land for the first half of the year, amounting to $2,060, with his own funds.

July 31. Reports covering construction work were presented to the participants in the venture in the following amounts: Harvey, $31,240; Moon, $13,970; Gumball, $10,560. The report from Harvey omitted the disbursement of July 6 for sidewalks, but included the property taxes.

August 2. Harvey paid $1,000 to a cement contractor and $4,000 to the nursery landscaping the project. He used the venture bank account.

August 4. Withdrawals from the venture bank account were as follows: Harvey, $35,000; Moon, $30,000; Gumball, $10,000.

August 29. Twelve homes were sold for a total of $191,000, and the net proceeds from the selling agent were deposited in the venture bank account. The bank was paid $51,800. Harvey drew $20,000 from the venture bank account.

August 31. Costs for the month were reported as follows: Harvey, $9,200; Moon, $7,200; Gumball, $3,100. Harvey's costs included the August payments to the cement contractor and the nursery.

September 1. Withdrawals were as follows: Moon, $15,000; Gumball, $3,500.

September 5. Gumball received a refund of $200 from a supplier for an overcharge on materials purchased in August; all of the materials involved were used in the venture houses. Gumball did not notify the participants in the venture of this refund. He gave the venture proper credit in his accounts.

September 10. Payment of $680 was made from the venture bank account for cement work. No participant included this in his report of expenditures.

September 12. The remaining homes were sold for a total of $58,000, and the net proceeds were deposited in the venture bank account.

September 15. Harvey reported to the participants that on September 14 he paid out $7,360 in behalf of the project, and indicated that, of this amount, $2,100 was for landscaping and $1,300 was for cement work. Harvey then withdrew $12,000 from the venture bank account.

September 16. Final reports for September costs were submitted: by Moon, $2,530; by Gumball, $1,210.

The venture was completed as of September 16. Any adjusting entries required to reconcile the accounts of the participants are to be made at this time.

September 20. Final settlement was made and the venture bank account was closed.

Required:

Journal entries on the books of Moon:

(a) Assuming that separate books are not maintained for the venture;
(b) Assuming that separate books are maintained for the venture.

You may omit explanations.

Under (a) above, show how the accounts relating to the joint venture would appear in the interim balance sheet as of July 31, without making any attempt to determine whether a gain or loss existed on the uncompleted venture.

Assignment Material for Chapter 6

Questions

Question 6-1. Differentiate between a consignment and a sale.

Question 6-2. Give some reasons why a consignment arrangement may be attractive to a consignor and a consignee.

Question 6-3. Describe the rights and duties of a consignee.

Question 6-4. How should consignment in accounts be shown in the consignee's balance sheet?

Assume that the consignee keeps a controlling account with consignments; how should the balance of the controlling account be shown in the balance sheet?

Question 6-5. Describe the nature of the account "Deferred Consignment Expense."

Question 6-6. Describe the operation of the Consignments Out and Consignment Shipments accounts when consignment sales are not kept separate and the periodical inventory basis is used. Where are these accounts shown in the financial statements?

Question 6-7. Comment on the acceptability of the following accounting procedure as practiced by a consignor:

Consignment out	10,000	
Sales		10,000
To record consignment of goods in terms of retail selling prices.		
Cash	4,400	
Selling commission	500	
Freight out	100	
Consignment out		5,000
To record account sale reporting sale of one-half of consigned goods for $5,000 less freight charges paid by consignee on the entire consignment and the 10% selling commission.		
Cost of sales	3,000	
Inventory		3,000
To remove goods sold from perpetual inventory.		
Sales	5,000	
Inventory		3,000
Consignment out		1,950
Freight out		50
Adjustment at year end for unsold goods consigned.		

Question 6-8. Develop an illustration showing the entries to be made on the books of the consignee and the consignor when a consignee returns unsold goods to a consignor. Assume that the consignor keeps consignment sales separate from regular sales and uses a perpetual inventory system.

Question 6-9. What adjustments should the consignee make at the end of the accounting period because of consignments on which he has made partial sales without rendering accounts sales?

Problems

Problem 6-1. On June 13, 1961, Kool Manufacturing Company consigned five refrigerated display cases, costing $900 each, to Equipment Wholesale Company. The cost of shipping the cases to the consignee amounted to $90, which was paid by the consignor.

On November 30, 1961, an account sales was received from the consignee, reporting that all of the cases had been sold for cash at $1,200 each. The account sales was accompanied by remittance of the amount due, after deduction of a commission of 10% of the selling price and expenses paid applicable to the consignment, as follows:

Advertising	$35
Delivery	45
Installation	70

Prepare journal entries on the books of Equipment Wholesale Company to summarize the transactions described above.

Problem 6-2. Refer to the data presented in Problem 6-1 and prepare journal entries, in parallel columns, to record the transactions on the books of Kool Manufacturing Company under each of the following assumptions:

(1) Kool Manufacturing Company uses the perpetual inventory basis, separates consignment sales from regular sales, and records net proceeds of consignment sales.

(2) Kool Manufacturing Company uses the periodical inventory basis, does not separate consignment sales from regular sales, and records gross proceeds of consignment sales.

Problem 6-3. Modernistic Company consigned five electric organs, which cost $800 each, to Dexter Music Company, which was to sell them for a commission of 15% of selling price. Any accounts receivable arising from the sale of the consigned instruments were to be the property of the consignor.

Modernistic Company paid trucking costs of $200. Dexter Music Company paid $100 on local advertising and $70 for local delivery to customers.

By December 31, Dexter Music Company had sold three of the electric organs, two for cash at $1,500 each and one on credit at $1,800, of which it had collected 25% as a down payment.

Dexter Music Company remitted all of the cash then due the consignor.

Prepare summary entries for the above on the books of the consignee. Also compute the profit to date of the consignor resulting from the consignment.

Problem 6-4. Manufacturing Company consigned ten refrigerators to Selling Company. These refrigerators had a cost of $180 each. Freight on the shipment was paid by Manufacturing Company in the amount of $120.

Selling Company submitted an account sales stating that it had sold six refrigerators, and remitted the $1,365 balance due Manufacturing Company after the following deductions from the selling price of the refrigerators sold.

Commission	15% of selling price
Advertising	$90
Delivery and installation of refrigerators sold	48
Cost of repairs to defective refrigerator sold	12
Total cartage cost incurred upon receipt of consigned merchandise	15

Required:

(A) The account sales submitted by Selling Company.
(B) Journal entries on the books of the consignor resulting from the receipt of the account sales, assuming that gross amounts are recorded and:
  (1) Consignment sales are kept separate:
    (a) Perpetual inventory basis is used.
    (b) Periodical inventory basis is used.
  (2) Consignment sales are not kept separate:
    (a) Perpetual inventory basis is used.
    (b) Periodical inventory basis is used.

Problem 6-5. The transactions described below, affecting Channing Sales Corporation, occurred during the month of April, 1961.

April 2—Received merchandise shipped April 1 on consignment, as follows: From Shattuck Manufacturing Company—50 television sets to be sold for $200. From The Tilden Corporation—20 hi-fi record players to be sold for $180. The shipping documents show that The Tilden Corporation prepaid the freight on April 1 in the amount of $25.

Channing Sales Corporation is to receive a commission of 15% of sales and is entitled to be reimbursed for all expenses incurred in connection with consigned merchandise.

April 3—Advanced $2,500 to The Tilden Corporation.

April 4—Paid freight on the shipment from Shattuck Manufacturing Company—$90.

April 12—Paid the cost of a newpaper advertisement of the merchandise described above—$120. Of this amount, 60% was applicable to television sets and the balance to record players.

April 13–30—Sold consigned merchandise, for cash, as follows:

Television sets	20
Record players	12

April 30—Submitted accounts sales to the consignors, a check for $3,000 being enclosed with the account sales rendered to Shattuck Manufacturing Company.

You may assume that the consigned items are priced to sell at 200% of cost and that the consignors prepare monthly financial statements.

Required:

(a) Journal entries for the above on the books of Shattuck Manufacturing Company, under the following assumptions:

  Consignment sales are kept separate.
  The periodical inventory basis is used.
  Consignment sales are recorded in terms of gross amounts.

(b) Journal entries for the above on the books of The Tilden Corporation, under the following assumptions:

  Consignment sales are not kept separate.
  The perpetual inventory basis is used.
  Consignment sales are recorded in terms of net amounts.

Problem 6-6. The Birmingham Company presented the following statements:

Income Statement

Sales	$1,072,400
Cost of goods sold	854,300
Gross profit	$ 218,100
Expenses	172,360
Net income	$ 45,740

Balance Sheet

Cash	$ 9,230	Accounts payable	$ 28,640
Accounts receivable	48,038	Notes payable	10,000
Inventories	63,882	Capital stock	100,000
Other assets	75,100	Retained earnings	57,610
	$196,250		$196,250

The president is much concerned over the fact that, while the sales have expanded, the gross profit, which usually was about 30%, has declined to approximately 20%. This is explained to him as owing to the fact that most of the increase in sales arose from consignment arrangements made with three large brokers; that no entries are made for consignments until the goods are sold by the consignees; and that sales by the brokers were recorded on the books on a net basis after commissions of 20% and expenses, which average 4% of sales. The president asks you to reconstruct the statements on a basis comparable with prior periods.

You find that the sales by brokers, as recorded on the books, were $456,000; that, of the inventory, $32,400 was on consignment; and that expenses of $1,200 applicable to this consignment inventory were charged to Expenses.

Prepare such statements as you deem necessary to clarify the situation.

Problem 6-7. Henry Par entered into an agreement with Sporting Goods Company to act as consignee in an undertaking to sell their golfing equipment on a commission basis. The agreement provided for the submission by Par of an account sales, and any cash due the company, at the end of each calendar quarter. The account sales shall not include any uncollected accounts. The consignee is permitted to deduct the following: 20% commission on all collected sales; payments for freight in; deductions claimed by customers for freight and express paid by them on equipment shipped to them; and 50% of consignee's advertising expense.

On June 30, 1961, the end of the first quarter of operations under the agreement, the accounts of Henry Par showed the following total debits and credits:

	Debits	Credits
Cash	64,790	10,240
Accounts receivable	78,000	60,000
Consignment in		48,000
Accrued expenses		900
Henry Par, capital		5,000
Drawings	3,000	
Uncollected sales	60,000	78,000
Freight in	180	
Freight and express deductions	210	
Advertising	320	
General expenses	7,640	
Commissions earned		12,000
	214,140	214,140

From the preceding information, prepare journal entries summarizing the transactions for the quarter ended June 30, 1961, including the unrecorded quarterly settlement with the consignor.

Problem 6-8. The June 30, 1961 trial balance of Ripple Company included the following:

Merchandise inventory:	
On hand	$22,300
On consignment	1,155

The amount shown as on consignment represented the balance of the Consignments Out account, which is set forth below in T-account form.

Consignments Out

1961				1961			
May	2	Consignment to Andrews Company	1,000	May	13	Advance from Andrews Company	800
	2	Packing and shipping thereon	80	June	30	Cash from Norton Company	650
	8	Consignment to Norton Company	600				
	8	Packing and shipping thereon	60				
June	12	Consignment to Premium Corporation	800				
	12	Packing and shipping thereon	65				

Accounts sales were received from consignees as of June 30, 1961, showing the following information:

	Norton Company		Andrews Company	
Selling price of merchandise sold		$900		$850
Less: Advertising	$ 60		$110	
Expense of delivering and installing merchandise sold	100		200	
Commission—10% of selling price	90	250	85	395
Net proceeds		$650		$455
Part of originally consigned merchandise sold		⅔		⅖

No remittance accompanied the account sales received from Andrews Company, since the amount of its advance exceeded the net proceeds of its sales. For this reason no entry was made to record the receipt of this account sales.

On July 1, 1961, Ripple Company received a letter from Premium Corporation stating that the consigned merchandise was being returned, having been shipped June 30, f.o.b. destination. It is expected that the merchandise will be delivered July 2. The letter also reported reimbursable expenses of $22.

The consignor uses a perpetual inventory system and desires to keep the consignment sales separate on a net basis.

Required:

Adjusting journal entries on the books of Ripple Company.

Problem 6-9. The Valley Company manufactures three products, selling them at retail and shipping them to wholesalers on consignment. Consignees are permitted to sell at any price, remitting to the company at the end of each month

at the consigned price for all goods sold during the month. The company credits Consignments Out for such remittances.

You are engaged to make an audit of the company's books for the year ended June 30, 1961, and the following statement is submitted to you:

THE VALLEY COMPANY
Income Statement
For the Year Ended June 30, 1961

	Product A	Product B	Product C	Total
Sales	$704,750	$1,057,000	$667,500	$2,429,250
Less cost of sales	409,500	745,750	461,700	1,616,950
Gross profit on sales	$295,250	$ 311,250	$205,800	$ 812,300
Expenses—apportioned on basis of sales	174,066	261,068	164,866	600,000
Net income	$121,184	$ 50,182	$ 40,934	$ 212,300

The inventory records disclosed the following quantities:

	Product A	Product B	Product C
Inventory, June 30, 1960	250	180	195
Manufactured	1,300	1,550	805
Total	1,550	1,730	1,000
Disposed of:			
Sale	905	1,150	600
Consignment	460	420	210
Total	1,365	1,570	810
On hand, June 30, 1961	185	160	190

Unit prices are:

	Product A	Product B	Product C
Cost	$300	$475	$570
Selling price—Retail	550	700	850
Consigned price	450	600	750

The consignees' reports for the year ended June 30, 1961, are summarized as follows:

	Product A	Product B	Product C
Remittances for sales	$240,300	$247,200	$192,750
Units unsold, June 30, 1961	10	25	34

Prepare an amended income statement and give the journal entry necessary to correct the books on June 30, 1961; all revenue and expense accounts have been closed to Revenue and Expense.

Problem 6-10. The trial balance of Harmon Company is presented below.

HARMON COMPANY
Trial Balance
December 31, 1961

Cash	6,100	
Accounts receivable	12,800	
Inventory on hand—December 31, 1960	18,300	
Consignments out	3,402	
Land, buildings, and machinery—net	100,000	
Accounts payable		3,300
Capital stock		120,000
Retained earnings		10,002
Sales		90,000
Consignment sales		3,175
Purchases	75,000	
Cost of consignment sales	3,175	
Consignment shipments		5,800
Selling expenses	9,000	
Administrative expenses	4,500	
	232,277	232,277

The inventory on hand on December 31, 1961, amounted to $14,800.

The following tabulation summarizes the consignment accounts on the books of Harmon Company on December 31, 1961.

	Cost of Goods Shipped	Shipping Charges	Total Charges	Advances from Consignees	Net Proceeds	Balance
A	$1,500	$ 42	$1,542	$ 600	$285	$ 657
B	1,000	30	1,030	500		530
C	2,000	40	2,040	350	180	1,510
D	1,300	30	1,330	300	325	705
Total	$5,800	$142	$5,942	$1,750	$790	$3,402

Accounts sales received from consignees during 1961 are summarized below.

	Sales	Commission, 10%	Selling Expenses	Total	Balance	Advances	Cash Remitted	Portion of Consignment Sold
A	$1,000	$100	$15	$115	$ 885	$600	$285	1/3
B	400	40	20	60	340	500		1/5
C	800	80	20	100	700	350	180	1/4
D	1,400	140	10	150	1,250	300	325	1/2

Required:

(a) Any required adjusting journal entries on the books of Harmon Company as of December 31, 1961.

(b) The income statement for the year.

Problem 6-11. (a) From the following information taken from the books of Hedges Corporation, make any necessary adjusting entries. The corporation uses a periodical inventory system and records the consignment sales in the regular Sales account on a net proceeds basis. You may assume that the accounts have not been closed.

The balance in the Consignments Out controlling account on August 31, 1961, was $1,912.50, made up of the following balances:

T. R. Keen	150.00
P. B. Smart	712.50
A. R. Orr	1,050.00
	$1,912.50

The account with T. R. Keen contained a debit on August 3 for the cost of merchandise, $750, not including a freight charge of $24.30 on the consignment shipment; on August 10 the account was credited for an advance in the amount of $600 from the consignee.

The account sales rendered by Keen on August 15, 1961, was:

Sales—⅓ of consignment		$350.00
Deduct: Expenses	$21.00	
Commission—10%	35.00	56.00
Net proceeds		$294.00

The account with P. B. Smart contained the following items:

July 5	Cost (not including a $55 freight charge)	1,080.00	July 9	Advance	200.00
			Aug. 10	Proceeds	167.50

The reports rendered by Smart are summarized as follows:

Sales—¼ of consignment		$425.00
Deduct: Expenses	$15.00	
Commission—10%	42.50	57.50
Net proceeds		$367.50
Advance (July 9)		200.00
Remittance		$167.50

The expenses deducted in the accounts sales submitted by Keen and Smart represented total expenses incurred by the consignees to date, and were applicable only to goods sold.

The account with Orr contained only one debit, for $1,050, not including a freight charge for $50 on the shipment. Orr returned all of the goods consigned to him; he had paid the return freight charges, $50, and had made other expenditures of $14, for which he is to be reimbursed. The goods were received in good condition on August 29 and were included in the August 31 inventory under the "on hand" category in the amount of $1,164.

(b) The balance sheet of Hedges Corporation as of August 31, 1961, before adjustment, contained the following items:

Inventory—Finished goods:	
On hand	$13,200.00
On consignment	1,912.50

State the figures which should have appeared in the balance sheet in connection with the consignments, and state what effect your adjustments will have on the net income of the period.

Problem 6-12. The trial balance of John Walling as of December 31, 1961, was as follows:

JOHN WALLING
Trial Balance
December 31, 1961

Cash	25,136.43	
Accounts receivable	172,133.19	
Inventory—December 31, 1960	172,168.94	
Furniture and fixtures—net of depreciation	5,281.72	
Accounts payable		183,422.65
Notes payable		21,432.18
John Walling, capital		116,235.08
John Walling, drawings	9,206.83	
Sales		991,132.16
Purchases	743,291.87	
Freight	21,432.83	
Local transportation	14,621.72	
Insurance on merchandise	8,435.62	
Salaries	94,103.81	
Light and power	4,206.18	
General expenses	27,481.63	
Stationery	1,207.46	
Telephone and telegraph	1,034.62	
Rent	10,137.50	
Interest expense	2,341.72	
	1,312,222.07	1,312,222.07

On December 31, 1960, there was included in the Accounts Receivable $58,143.25, representing the pro forma billing price of merchandise on consignment in the hands of consignees.

During the year 1961, $39,432.12 was charged to Accounts Receivable and credited to Sales for pro forma billing prices of merchandise consigned outward.

Accounts sales were received during the year showing that $102,113.19 of gross sales had been made, the net proceeds from which were $95,132.18. The accounts sales showed that $18,143.32 at pro forma billing prices of consigned merchandise remained unsold on December 31, 1961, all of which were billed during the current year. No record of the accounts sales was made on the books. Collections from consignees during 1961 amounted to $86,137.43. The collections were credited to Accounts Receivable.

During the preceding year, the pro forma billing price at which merchandise on consignment outward had been invoiced was 25% above cost; during the current year, the pro forma billing price at which merchandise on consignment outward was invoiced was 30% above cost.

At the end of the preceding year, there had been included in the inventory $42,136.50, representing the market value of merchandise on consignment inward. This amount was offset by an amount in Accounts Payable of $65,138.40, representing the original pro forma billing price of this merchandise.

During the year, merchandise was received from consignors at pro forma billing prices of $312,145.67. This merchandise was charged to Purchases and credited to Accounts Payable. During the year, all payments made for freight, cartage, insurance, and telephone and telegraph on behalf of consignors were charged to expense accounts. The expense accounts so charged, and the amounts, were as follows: Freight, $5,436.16; Local Transportation, $3,921.37; Insurance on Merchandise, $2,875.42; Telephone and Telegraph, $701.16.

Gross sales made from these consignments during the year amounted to $432,183.15. This amount was charged to Accounts Receivable and credited to Sales. Accounts sales were rendered to the consignors, showing gross sales of $432,183.15 and net proceeds of $401,112.56, the difference consisting of deductions for freight charges of $4,113.19; local transportation, $3,643.82; insurance, $1,143.52; commission, $21,636.48; telephone and telegraph, $533.58. No entry was made for these accounts sales.

Remittances were made to consignors to the amount of $351,412.94, which was charged to Accounts Payable and credited to Cash. The accounts sales showed the pro forma billing price of merchandise on consignment inward and unsold to be $43,162.19 on December 31, 1961.

Prepare entries to adjust the books so that the trial balance on December 31, 1961, will correctly show the facts as to consignments inward and outward and financial obligations to and from consignors and consignees. Also submit working papers showing the trial balance after adjustment.

Consignment sales need not be kept separate, and net amounts should be recorded rather than gross amounts.

Assignment Material for Chapter 7

Questions

Question 7-1. Describe the operation of the Deferred Gross Profit on Installment Sales account.

Question 7-2. Considering the broad objectives of accounting theory, does it follow that a practice of taking up gross profit in installments as collections are made will result in net income determinations that are theoretically excellent?

Question 7-3. Describe the long-end and short-end methods of calculating interest on installment sales.

Question 7-4. Describe three methods of taking up gross profits on the basis of cash collections, and state the conditions which would justify the use of each method.

Question 7-5. How should reconditioning costs on repossessed merchandise be handled in the accounts?

Question 7-6. Discuss briefly the merits, if any, of showing the deferred gross profit contra to installment receivables in the balance sheet.

Question 7-7. Upon examining the accounts of a furniture dealer who sells to the retail trade on an installment basis and who gives allowances on used furniture traded in on new furniture purchased on the installment plan, you find that the trade-ins are given no value in the accounts. Describe the circumstances which would lead you to approve of this "no value" procedure and circumstances which would cause you to disapprove of it.

Question 7-8. Since gross profits are deferred under the installment method of accounting and taken into income on the basis of collections, should expenses of the period of sale be similarly deferred and charged to income on the basis of collections?

Question 7-9. About one-half of the customers of an appliance dealer make use of an installment payment plan. The dealer has been deferring the gross profit on such sales, recognizing the gross profit as realized on the basis of collections from the installment customers. Since the rate of gross profit and the sales volume have remained fairly stable over the years, the dealer would like to abandon the installment sales method of reporting income and recognize the gross profit in the year the sale is made. What complication that you can think of affecting the income statement would such a change create? State how you would propose that it should be handled.

Question 7-10. Evaluate the following accounting procedure for handling defaults on installment accounts receivable:

(1) The uncollected account balance is written off by a charge to Deferred Gross Profit on Installment Sales.

(2) The repossessed merchandise is assigned no value and any proceeds realized from resale of repossessed merchandise are credited to Deferred Gross Profit on Installment Sales as a correction to the write-off charge described in (1).

(3) At year end, the installment receivable accounts are analyzed in detail and the Deferred Gross Profit on Installment Sales account is adjusted

to reflect the deferred gross profit applicable to the uncollected installment receivables.

Problems

Problem 7-1. On August 27, 1960, Super Motor Company, which maintains a perpetual inventory, sold a new car to J. R. Sommer for $2,800. The car cost the seller $2,079. Sommer paid $400 down and received a $1,200 allowance on his old car, the balance being payable in twelve monthly installments beginning on September 30, 1960. The used car traded in had an estimated value of $1,100. All payments were made when due.

Prepare journal entries to record all transactions on the Super Motor Company's books and any adjusting and closing entries as of December 31, 1960.

Problem 7-2. On January 1, 1961, Ultra Furniture Company had an installment account receivable from E. Z. Smith with a balance of $1,200. During 1961, $220 was collected from Smith. No further collections could be made and the merchandise sold to Smith was repossessed. When reacquired, the merchandise was appraised as being worth $460. To improve its salability, the company expended $60 for reconditioning.

The merchandise originally cost $924 and was originally sold for $1,650.

Prepare entries for the books of Ultra Furniture Company to record all transactions with Smith during 1961, including those associated with the repossession.

Problem 7-3. The data below are taken from the records of Appliance Company, a corporation selling appliances exclusively on the installment basis.

	1959	1960	1961
Installment sales	$365,500	$417,800	$610,750
Gross profit rate	36%	39%	40%

The balances in the Installment Accounts Receivable controlling accounts at the beginning and end of 1961 were as follows:

	1961	
	January 1	December 31
From sales made in:		
1959	$ 17,400	$ —
1960	205,400	25,800
1961	—	305,520

There was one repossession during 1961. It related to a 1960 sale. It was estimated that the value of the repossessed article was $200, which equalled the uncollected balance in the customer's installment account receivable. The repossession was recorded by the following entry:

Repossessed appliance inventory	200	
Installment accounts receivable		200

Operating expense for 1961 amounted to $165,340.

Required:

(a) Income statement for 1961. You may assume that the applicable income tax rate is 30%.

(b) All adjusting and closing entries as of December 31, 1961, assuming that the company uses a perpetual inventory system.

Problem 7-4. Nomad Electric Company is a dealer in appliances, which it sells on the installment basis. On February 1, 1960, a sale was made to E. E. Smith on the following terms:

(a) Sales price, $150.00;
(b) $30.00 down; balance in monthly installments of $10.00 each starting March 1, 1960;
(c) Bill of sale to be given on date of final payment.

The cost of such appliances to Nomad Company is $90.00 per unit. All payments due in 1960 were received.

(a) Make the journal entry on December 31 to record the year's realized gross profit on this transaction, assuming that no interest is charged.
(b) Make the adjusting journal entries on December 31, 1960, to correctly state interest earned and gross profit realized during 1960, assuming that each of the installments was to be applied first to the payment of long-end interest at 6% per annum, with the balance to apply on the principal.

Problem 7-5. Refer to Problem 7-4 and modify the facts as follows: The date of the sale is August 1, 1960, the sales price is $1,500.00, the down payment is $300.00, the gross profit is $600.00, and E. E. Smith is to pay $100.00 per month on the principal plus interest at 6%.

Required:

(1) A schedule showing the cash collected during 1960, and the division thereof between interest and principal, using:
  (a) the long-end basis.
  (b) the short-end basis.
(2) The adjusting journal entries on December 31, 1960, to correctly state interest earned and gross profit realized during 1960 on each interest basis.

Problem 7-6. Skippy Sales Corporation accounts for sales on the installment basis. The balances of the control accounts for Installment Contracts Receivable at the beginning and end of 1961 were:

	Jan. 1, 1961	Dec. 31, 1961
Installment contracts receivable—1959	$ 24,020	$ —
Installment contracts receivable—1960	344,460	67,440
Installment contracts receivable—1961	—	410,090

As collections are made, the company debits Cash and credits Installment Contracts Receivable. During 1961, upon default in payment by customers, the company repossessed merchandise which it believes can be resold for $1,700. The sales had been made in 1960 for $5,400, and $3,200 had been collected prior to default. The company recorded the default and repossession by a debit to Inventory of Repossessed Merchandise and a credit to Installment Contracts Receivable—1960 for the uncollected balance. The repossessed merchandise is on hand at year end.

The company's sales and costs of sales for the three years involved are summarized below:

	1959	1960	1961
Net sales	$380,000	$432,000	$602,000
Cost of sales	247,000	285,120	379,260

Required:

(a) December 31, 1961 journal entries to record the recognition of profit and any other adjustments arising from the above data. Give complete explanations in support of your entries.
(b) An alternate method of handling the repossession that you believe would be acceptable.

Problem 7-7. The trial balance of Connable Company is presented below.

CONNABLE COMPANY
Trial Balance
December 31, 1962

Cash	56,444	
Installment accounts receivable—1960	2,400	
Installment accounts receivable—1961	21,360	
Installment accounts receivable—1962	117,200	
Inventory—December 31, 1962	60,160	
Other assets	75,240	
Accounts payable		22,664
Deferred gross profit—1960		10,120
Deferred gross profit—1961		32,802
Capital stock		200,000
Retained earnings		23,268
Installment sales		330,000
Cost of installment sales	206,250	
Expenses	75,040	
Loss on repossessions	4,760	
	618,854	618,854

The condensed balance sheet at the end of the preceding year was:

CONNABLE COMPANY
Balance Sheet
December 31, 1961

Cash	$ 33,050	Accounts payable	$ 32,400
Installment accounts receivable—1960	25,300	Notes payable	10,000
Installment accounts receivable—1961	93,720	Deferred gross profit—1960	10,120
Inventory	79,310	Deferred gross profit—1961	32,802
Other assets	77,210	Capital stock	200,000
		Retained earnings	23,268
	$308,590		$308,590

Included in the December 31, 1962 inventory is $7,800 of repossessed merchandise carried at its appraised value as of the repossession date. The repossessions related to 1960 sales and occurred when $12,560 was unpaid on the installment contracts.

Required:

(a) Adjusting and closing entries on December 31, 1962.
(b) Income statement for 1962.
(c) Balance sheet as of December 31, 1962.

Problem 7-8. Easy Street Development Company was organized during the latter part of 1960. Its business was to develop and sell residential lots. For this purpose, land was acquired for $100,000, and $50,000 was spent in preparing the lots for sale.

The company's after-closing trial balance is presented below.

EASY STREET DEVELOPMENT COMPANY
After-closing Trial Balance
December 31, 1960

Cash	2,600	
Prepaid office rent (2 months)	300	
Land	150,000	
Organization expense	600	
Accrued operating expenses		1,100
Bank loans		60,000
Common stock		100,000
Retained earnings (deficit)	7,600	
	161,100	161,100

During 1961, the company negotiated sales agreements aggregating $165,000, on which there was a potential gross profit of $66,000. In each case, the sales agreement specified that title was retained until the installment payments required under the agreement were paid in full.

1961 Cash Summary

Balance—January 1		$ 2,600
Receipts:		
Completed contracts—titles transferred	$60,000	
On contracts aggregating $83,700, not in default	68,100	
On contracts defaulted during 1961	12,900	141,000
Total		$143,600
Disbursements:		
Interest	$ 2,700	
Commissions to brokers	14,100	
Bank loans	60,000	
Office rent—11 months	1,650	
Other expenses	32,600	111,050
Balance—December 31		$ 32,550

There were accrued operating expenses of $1,300 as of December 31, 1961. The lots involved in the defaulted contracts have not been resold.

The three stockholders who organized the company and own all of the outstanding shares plan to liquidate the company as soon as all of the lots now owned have been sold and collected for in full.

Local experience indicates that the gross profit will aggregate $120,000 during the life of the company, which includes $20,000 of gross profit expected to be realized on contracts ultimately defaulted.

Required:

(a) Journal entries summarizing the 1961 transactions, including any adjusting entries required as of December 31, 1961.

(b) Income statement for 1961.

Problem 7-9. From the information presented below, give entries to adjust and close the accounts as of December 31, 1962. Also prepare an income statement for 1962, showing the volume of sales for the current year.

FLATROCK COMPANY
Trial Balance
December 31, 1962

Cash	3,100	
Installment accounts receivable—1961	20,000	
Installment accounts receivable—1962	180,000	
Inventory—12/31/62	100,000	
Other assets	40,100	
Accounts payable		30,000
Deferred gross profit on installment sales—1960		9,000
Deferred gross profit on installment sales—1961		36,000
Deferred gross profit on installment sales—1962		90,000
Capital stock		200,000
Retained earnings		35,000
Revenue from forfeited contracts		3,200
Operating expenses	60,000	
	403,200	403,200

The company uses a perpetual inventory system, and when each installment sale is made, it charges an installment account receivable and credits the inventory and deferred gross profit accounts. The company marks the merchandise purchased for sale to produce a gross profit of 40%.

During 1962, there were several repossessions of merchandise as a result of customer defaults. In summary form, the repossessions were recorded as follows:

Inventory	9,200	
Deferred gross profit on installment sales—1960	400	
Deferred gross profit on installment sales—1961	3,600	
Installment accounts receivable—1960		1,000
Installment accounts receivable—1961		9,000
Revenue from forfeited contracts		3,200

The repossessed merchandise remains on hand on December 31, 1962, and it is apparent that its value as of the dates of repossession was only 60% of its book value.

Problem 7-10. Carefree Boat Company employs the perpetual inventory basis in its accounting for new boats. On August 15, 1961, it delivered a new cruiser with a list price of $15,300 to Charles Brown. It granted the customer an allowance of $1,800 on an old sailboat, the current value of which was estimated to be $950. The balance of $13,500 was payable as follows: Cash at time of purchase, $3,500; balance in 20 monthly payments of $500, plus short-end interest at 6%, the first payment being made on September 1, 1961.

All monthly payments were received when due. The cruiser cost Carefree Boat Company $9,826, including transportation of $40.

Prepare journal entries, including adjusting entries, to record all of the transactions described above through December 31, 1961, the close of the company's business year. Also, give the journal entries for the January and February, 1962 installment collections.

Problem 7-11. From the data which are presented on page 621, prepare a balance sheet as of December 31, 1962, and an income statement for the year 1962.

FUTURE APPLIANCE COMPANY
Trial Balance—December 31, 1962

Cash	30,000	
Accounts receivable	160,000	
Merchandise inventory	15,000	
Accounts payable		6,000
Unrealized gross profit, 1961		52,250
Capital stock		100,000
Retained earnings		9,750
Sales		250,000
Purchases	128,000	
Expenses	85,000	
	418,000	418,000

The Accounts Receivable account is a controlling account for three subsidiary ledgers which show the following totals:

1961 installment contracts	$ 30,000
1962 installment contracts	120,000
Charge accounts (terms, 30 days net)	10,000
	$160,000

The gross profit on installment contracts for 1961 was 55% of sales price; on installment contracts for 1962, 50%, with the gross profit on regular charge sales being somewhat below 50%.

Collections on installment contracts for 1961 total $60,000 for the year just closed; on installment contracts for 1962, $80,000; on charge accounts, $48,000. The charge accounts on the books at the beginning of the year amounted to $8,000.

Repossessions for the year were on installment contracts for 1961, on which the uncollected balances at the time of repossession amounted to $5,000. Merchandise repossessed was charged to Purchases at the amount of the uncollected balance. Appraisal reports show that this repossessed merchandise actually was worth $4,000 at the time of repossession.

The final inventory of merchandise valued at cost amounted to $13,000, including the repossessed merchandise at $4,000. You may assume that the applicable income tax rate is 30%.

Problem 7-12. You are called in by one of your clients, who is in the business of selling an article of merchandise at retail. During the past years he has sold entirely on a cash basis. Beginning with January 1, 1961, he has decided to sell on the installment plan. You are asked to determine the working capital that will be required to finance the business on the installment plan.

The article sells for $150. Installments are to be paid at the rate of $15 per month, the first installment payable at the time of sale. Each article costs your client $90. Your client does not own any fixed assets; all such assets are rented, with the monthly rental being fixed at $15 per unit sold. Salesmen's commissions amount to $30 per article sold and are payable in full at the time of sale. Thus, the net income equals $15 per unit. Your client must pay for the article at the time he sells it. Based on 1960 sales, the volume for 1961 is estimated as follows:

	Units		Units		Units
January	75	May	400	September	150
February	125	June	400	October	150
March	150	July	200	November	150
April	200	August	150	December	150

Determine the maximum working capital requirements.

Problem 7-13. Jones Jewelry Corporation was organized on January 2, 1961, and commenced operations on that date in the jewelry business, selling to customers on the installment plan. The business designs and produces some of the jewelry it sells.

A trial balance of the corporation's books is presented below:

JONES JEWELRY CORPORATION
Trial Balance—December 31, 1962

Cash	123,099.48	
Furniture and fixtures	3,000.00	
Inventory—December 31, 1961	31,233.05	
Sales		272,989.19
Purchases	123,261.49	
Repairs and engraving	3,363.60	
Direct labor	2,248.19	
Selling commissions	8,500.00	
Advertising	14,652.62	
Office expense	39,797.57	
Depreciation—Furniture and fixtures	300.00	
Provision for bad debts	4,326.40	
Deferred gross profit—1961 sales (December 31, 1961 balance)		116,488.04
Collections on 1961 installment accounts		120,447.59
Collections on 1962 installment accounts		147,726.02
Installment accounts receivable—1961	215,517.70	
Installment accounts receivable—1962	272,989.19	
Accumulated depreciation—Furniture and fixtures		600.00
Reserve for bad debts		7,169.00
Deficit—December 31, 1961	23,130.55	
Capital stock		200,000.00
	865,419.84	865,419.84

Inventory—December 31, 1962 ...... $35,820.60
Bad debts reserve—1961 .... 2,842.60
Depreciation on furniture and fixtures—10% per annum.

The following is an analysis of the cash transactions for the two years ended December 31, 1962:

Cash Receipts		Cash Disbursements	
1961		1961	
Capital stock	$200,000.00	Purchases	$148,278.14
Collections on 1961 installment accounts	50,362.50	Repairs and engraving	3,142.06
Notes payable	10,000.00	Direct labor	1,983.91
		Selling commissions	7,500.00
		Advertising	8,483.25
		Office expense (state tax included)	31,225.80
		Furniture and fixtures	3,000.00
		Notes payable	10,000.00
1962		1962	
Collections on 1961 installment accounts	$120,447.59	Purchases (all 1962)	$123,261.49
Collections on 1962 installment accounts	147,726.02	Repairs and engraving	3,363.60
		Direct labor	2,248.19
		Advertising	14,652.62
		Selling commissions	8,500.00
		Office expense (state tax included)	39,797.57

There were no defaults or repossessions during 1961 and 1962.

Required:

(a) Comparative income statement showing the results of operations for 1961 and 1962.
(b) Balance sheet as of December 31, 1962.

Assignment Material for Chapter 8

Questions

Question 8-1. Assume that a small corporation has secured a one-year bank loan, and that, as part of the loan agreement, it has pledged as security an insurance policy on the life of the president of the corporation. Under such circumstances, may the surrender value of the policy be classified as a current asset? Explain your answer.

Question 8-2. Under the circumstances described in Question 8-1 above, is it recommended practice for the balance sheet to show only the excess of the surrender value over the amount borrowed from the bank?

Question 8-3. What is the life insurance expense for the calendar year 1960, giving consideration to the following facts?

Date	Cash Surrender Value	Annual Premium	Annual Dividend	Amount Paid
June 30, 1959..............	$210			
July 1, 1959..............		$225	$21	$204
June 30, 1960..............	290			
July 1, 1960..............		225	23	202
June 30, 1961..............	380			
July 1, 1961..............		225	25	200

Question 8-4. State the method of setting up and closing a Fire Loss account, explaining what items should be charged and credited to it.

Question 8-5. What is an "involuntary conversion"? Develop an illustration.

Question 8-6. Describe the basic features of extra expense insurance.

Question 8-7. Combat the following argument favoring the classification of the cash surrender value as a current asset: The cash or loan value of a life insurance policy should be shown under the Current Assets caption because it is a source of immediately available funds which can be obtained without interfering with the regular operations of the business.

Question 8-8. The owners of a large plant operating on highly inflammable material were required to pay prohibitive rates for insurance, and therefore they installed a sprinkler system in order to reduce the cost of insurance. In consequence of such installation, the company was enabled to obtain a full line of insurance, although mostly in mutual companies, at rates far below those previously charged. The company received at the end of the year $1,000 as dividends from the mutual insurance companies. To what account should the cost of the sprinkler system be charged, and how should the insurance dividend be treated?

Question 8-9. Assume that a fire takes place some time after the annual closing. How would you determine the amount to charge to the Fire Loss account in respect to fixed assets?

How would you determine the amount to charge to the Fire Loss account for inventories?

Question 8-10. A company has insured the life of its president for its own benefit, and is carrying on its balance sheet the aggregate amount of premiums paid. What position should an auditor take with regard to these premiums?

Question 8-11. Contrast use and occupancy insurance and profit insurance.

Question 8-12. What is meant by the "coinsurance clause"? How would you proceed to determine the amount which could be collected under a policy carrying the coinsurance clause?

Problems

Problem 8-1. From the following information prepare a schedule showing, for *each* of the cases given:

Amount paid by insurance company, 80% coinsurance in force.
Loss suffered by owner.

Case	Insurable Value of Property	Insurance Coverage	Loss by Fire
A-1	$500,000	$500,000	$500,000
2			400,000
3			200,000
B-1	$500,000	$400,000	$500,000
2			400,000
3			200,000
C-1	$500,000	$250,000	$500,000
2			400,000
3			200,000

Problem 8-2. Valentine Company took out a $50,000 insurance policy on the life of its president on January 2, 1959. The company's accounting period is the calendar year. The annual premium on this policy is $1,210.40. Data regarding dividends and cash surrender values are given below:

	1960	1961	1962
Dividend credit deducted from premium paid in	$ -0-	$ 38.80	$ 42.10
Cash surrender value at year end	-0-	1,380.30	1,893.50

Required:

All pertinent journal entries arising from the above data for the calendar years 1960, 1961, and 1962. (Include closing entries.)

Problem 8-3. On December 31, 1961, Trussell Manufacturing Company had on its books a debit balance account of $2,870 for workmen's compensation insurance. This balance comprised a charge to make up the deficiency on the prepayment made on March 1, 1960, which was based on the estimated payroll for the policy year which began then, and the prepayment made on March 1, 1961. From the data below, determine the amount of the deficiency payment and any amounts prepaid or accrued as of December 31, 1961.

Classification	Rate per $100	Estimate, March 1, 1961	Actual payroll for portion of calendar year after March 1, 1961
A	$1.15	$120,000	$123,700
B	.90	80,000	84,620
C	.42	24,000	28,720
D	.12	18,000	19,520
E	.08	22,000	21,640

Problem 8-4. Wilmerding and Winter had their inventory insured for $32,000 under a policy with an 80% coinsurance clause. As a result of a fire, the partnership filed a claim covering the total destruction of inventory worth $15,120. Immediately after the fire, the undamaged inventory amounted to $26,880, as determined by the partners.

According to data developed by the insurance adjuster, the insurable value of the inventory immediately before the fire amounted to $38,000. Also, the adjuster was able to establish that incorrect prices were used by the partners in computing the value of part of the destroyed merchandise, with the result that the claim was overstated by $800.

How much less was the amount of the claim as computed by the adjuster than Wilmerding and Winter would have received under their claim?

Problem 8-5. The general manager of Crossroads Company has taken out several insurance policies containing an 80% coinsurance clause. A bad fire has occurred on the premises, and the manager asks you to compute the amount of insurance he can collect under each of the following policies.

Assets Insured	Insurable Value	Agreed Loss Suffered	Insurance Carried
Buildings	$60,000	$38,000	$45,000
Furniture	19,200	16,000	15,000
Merchandise	Unknown	Total	20,000

Selected data from the accounting records for the current period:

Beginning inventory	$ 26,468
Buildings	80,000
Accumulated depreciation—Buildings	32,000
Furniture	25,000
Accumulated depreciation—Furniture	5,000
Sales	151,270
Sales returns and allowances	5,130
Purchases	102,180
Freight in	1,110
Purchase returns and allowances	3,150
Depreciation expense	2,120
Salesmen's commissions	18,450
Advertising	880

Selected data from prior financial statements:

Gross profit rate	30%

Problem 8-6. On November 1, 1960, an early-morning fire partly destroyed the main plant building of Larson Electronic Manufacturers, resulting in a loss of $80,000, which was considered to be equal to one-half of the current value of the building, although the carrying value of the building in the accounts was $180,000.

The following information concerning policies which covered this building is taken from the company's insurance register:

Insuring Company	Date of Policy	Term of Policy	Face Amount of Insurance	Coinsurance Clauses
J	May 1, 1959	2 years	$20,000	90%
K	July 1, 1959	2 years	30,000	70%
L	Sept. 1, 1960	1 year	30,000	80%
M	July 16, 1960	2 years	40,000	None

Each of the policies contains a standard contribution clause.

Required:

Computation of the amount the insured will receive on each policy.

Problem 8-7. On August 31, 1960, Balanced Company had a debit balance of $3,252.69 in its Workmen's Compensation Insurance account. This balance was composed of the August 31, 1959 adjusted balance and two payments made by the company. The first payment was an additional premium for the calendar year 1959, determined by an audit of the payroll records for that year. The second was an advance premium paid on January 1, 1960, which was based on the estimated payroll for 1960.

The company presents the following data relevant to workmen's compensation insurance costs:

Work Group Classification	Rate per $100	Estimated Payroll for 1960	Actual Payroll for Portion of Fiscal Year Prior to Jan. 1, 1960	Actual Payroll for Portion of Fiscal Year After Jan. 1, 1960
1	$1.10	$120,000	$42,500	$107,700
2	.95	76,000	36,100	61,600
3	.40	30,000	12,200	20,720
4	.10	20,000	6,100	18,300
5	.08	25,000	4,800	18,600

Required:

(a) Computation of the correct balance in the account on August 31, 1960, the end of the company's fiscal year.
(b) Journal entry necessary to adjust the account to its correct August 31 balance.

Problem 8-8. Deadwood Company owned a storage building which it purchased on January 2, 1956, for $432,000. The company records depreciation on the building annually on December 31 in the amount of $14,400. The building is insured for $448,000.

On April 30, 1961, the building was completely destroyed by fire.

Under each of the four assumptions listed below, you are to:

(a) Prepare journal entries
  (1) at the date of the fire;
  (2) for the receipt of the face amount of the policy on May 20, 1961;
  (3) for the purchase of a new storage building on October 1, 1961.
(b) Show how much taxable gain or loss on the building the company must show on its income tax return for 1961.
(c) Show what the adjusted basis for depreciation for income tax purposes would be on the new building.

Assumptions:

I. The entire insurance proceeds are invested in the new building.
II. The cost of the new building is $419,200.
III. The cost of the new building is $489,600.
IV. The insurance policy face was $288,000, and the cost of the new building was $339,200.

Problem 8-9. Gray and Brown, partners, started business on January 1, 1958. On May 1, 1958, they agreed to insure each partner's life for $25,000, the cost of such insurance to be treated as an expense of the partnership.

In the event of the death of a partner, the proceeds of the insurance were to be paid to the partnership in order to facilitate settlement with the deceased partner's estate.

The premium amounted to $900 per year on each policy, and these amounts were charged to expense each May 1 and treated as an expense for the calendar year in which the premiums were paid. The cash surrender values amounted to $1,650 at the end of the third policy year ($825 for each policy) and $2,460 at the end of the fourth policy year. However, the cash surrender values were never recorded in the accounts. During the first four calendar years, the partners shared earnings in the ratio of 70% to Gray and 30% to Brown, but as of January 1, 1962, the ratio was changed to 50–50.

As of December 31, 1961, Gray's capital account had a balance of $29,500 and the balance of Brown's capital account was $17,000. Gray died on March 1, 1962. The bookkeeper for the partnership closed the books and transferred the net income from regular operations for the two months, in the amount of $2,600, to the capital accounts. There were no withdrawals or additional investments by the partners during January and February. The life insurance policy was collected and the proceeds were credited to the partners' capital accounts in the profit and loss ratio, and Brown offered to settle with the executor of Gray's estate by paying an amount equal to the balance in Gray's capital account.

(a) Determine the amount offered in settlement with Gray's estate.
(b) Assuming that you consider the above offer unfair, prepare a computation showing the amount you believe should be offered to Gray's estate, considering only the facts given in this problem.
(c) Submit journal entries for any corrections you believe are required and for the payment to the estate, assuming that the amount computed in (b) is paid in settlement.

Problem 8-10. The following accounts are found in the Current Assets section of the December 31, 1961 preliminary balance sheet of Spooner Regional Company:

Cash surrender value of life insurance	$5,268.20	
Less policy loan from Trans-World Life Insurance Co.	4,000.00	$1,268.20
Dividends receivable on life insurance		46.42

These are the only accounts in the balance sheet which pertain to the insurance policy or the loan.

Upon investigation, you learn the following facts:

The cash surrender value shown is for September 30, 1962. The cash surrender value was $4,644.08 on September 30, 1961, at which time the annual premium of $1,170.78 was due and was paid.

The loan from the insurance company is represented by a one-year, 6% note due April 1, 1962, with interest payable at maturity.

Other Income was credited $46.42 on October 1, 1961, when the dividend was declared by the insurance company, although you find that the insured used such dividend to reduce the premium payment.

The books have not been closed.

Required:

(a) Journal entries to correct the accounts, giving consideration to the above information.
(b) Show how all accounts related to the insurance policy and the loan should appear in the balance sheet as of December 31, 1961.

Problem 8-11. Alaska Company, organized in 1960, reported in its tax returns for 1960 and 1961 insurance charged on a cash basis instead of on an accrual basis. This necessitates preparing amended federal income tax returns for 1960 and 1961. Make adjustments to change to the accrual basis, and all other adjustments needed to correct the books, using the following information:

Insurance Account

1960		Debit	Credit
May 1	Fire insurance premium on building for the period from May 1, 1960 to April 30, 1964	$ 5,200.00	
June 15	Fire insurance premium on stock, for the period from June 1, 1960 to May 30, 1961	1,600.00	
Aug. 1	Employees' fidelity insurance for the period from Aug. 1, 1960 to July 31, 1963	7,200.00	
Aug. 15	Refund because of reduction in rate of employees' fidelity insurance		$ 675.00
Sept. 1	Fire insurance premium on equipment for the period from Sept. 1, 1960 to Aug. 31, 1964*	7,500.00	
Oct. 1	Due from Atka Insurance Company on shortage of bonded employee	1,400.00	
Dec. 31	Transferred to Revenue and Expense		22,225.00
		$22,900.00	$22,900.00

* 4-year policy containing 85% coinsurance clause.

1961		Debit	Credit
Mar. 1	Recovery from Atka Insurance Company on 1960 shortage		$ 1,400.00
Mar. 15	Premium on liability insurance carried on trucks, June 15, 1960 to June 14, 1961*	$ 2,820.00	
June 1	Additional fire insurance carried on building for the period June 1, 1961 to May 31, 1964	1,500.00	
June 15	Fire insurance premium on stock for the period from June 1, 1961 to May 31, 1962	1,500.00	
Nov. 15	Shortage of P. Jones to be paid fully by Superior Insurance Company	200.00	
Dec. 31	Transferred to Revenue and Expense		4,620.00
		$ 6,020.00	$ 6,020.00

* This policy was renewed June 14, 1961 to June 14, 1962, but the premium has not yet been paid. Premium, $2,820.00.

The adjusted insurance expense for 1960 and 1961 should be indicated on your work sheet, as well as the journal entries to bring the books into agreement with the amended tax returns.

Problem 8-12. Sterling Jewelry Company claims a loss of $22,000 from a theft on August 31. The insurance company that issued the theft policy carried by Sterling Jewelry Company asks you to investigate and prepare an independent estimate of the theft loss.

The company's records are incomplete, but your investigation shows that the company usually averages an annual return of 20% on the partners' capital, before consideration of the drawings by the two partners, and that the current year may be considered normal. Furthermore, you learn that during the months of May, June, and December the company does twice as much business as it does, on the average, during the other months of the year. You establish the partners' capital on January 1 as $72,100. The partners' capital on September 1, as established by a careful inventory of the assets and liabilities of the partnership, is $82,745. The partners had made an additional investment of $15,000 on February 1, and each of them had withdrawn $400 a month in anticipation of earnings.

Problem 8-13. Mills Manufacturing Company suffered a fire loss April 15, 1961. Although the books of account were damaged badly, the information shown below was secured from various sources.

Using the material given below, prepare the balance sheet as it would appear after the fire, as of April 15, 1961.

MILLS MANUFACTURING COMPANY
Balance Sheet
December 31, 1960

Assets		
Current assets:		
Cash	$ 38,910.15	
Accounts receivable	36,205.00	
Inventory	48,000.00	$123,115.15
Fixed assets:		
Machinery and equipment	$ 50,000.00	
Less accumulated depreciation	8,602.30	
Net	$ 41,397.70	
Automobiles—net	3,805.35	45,203.05
		$168,318.20
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 3,719.30	
Notes payable	5,306.40	$ 9,025.70
Stockholders' equity:		
Capital stock	$100,000.00	
Retained earnings	59,292.50	159,292.50
		$168,318.20

Cash receipts and payments were compiled as follows:

Receipts	
Accounts receivable	$101,206.30
Notes payable	29,483.00
Payments	
Accounts payable	$ 46,785.40
Notes payable	1,050.00
Machinery and equipment	2,500.00
Manufacturing expenses	85,416.75
Selling expenses	9,843.60
Administrative expenses	15,194.15

As of April 15, 1961, accounts receivable were $169,896.25; accounts payable were $30,105.60.

Depreciation to April 15, to be considered: machinery and equipment, $1,571.50; automobiles, $805.35.

Inventory saved from the fire was given a value of $18,500.00.

The inventory was insured for $29,000.00 on an 80% coinsurance policy. The insurance company agreed to accept a before-the-fire inventory computed on the basis of an average gross profit of 38%.

It is estimated that the damage to machinery and equipment can be repaired for $4,500.00. Of this, the insurance company agreed to pay 90%. The remaining useful life of the machinery and equipment will not be altered by the fire damage and its planned repair.

The accrual of interest may be ignored.

Problem 8-14. Keystone Company took out life insurance on a key executive in the amount of $60,000 on October 1, 1958. The annual premium on this straight life policy is $1,560.30. The company plans to allow any dividends available on the policy to be used to reduce premium payments. The company's fiscal year ends on June 30. The cash surrender value of the policy on September 30, 1961, is $1,710.36; the increase in surrender value during the ensuing policy year is $584.00. Dividends on the policy, available for use after September 30, 1960 and 1961, respectively, are $58.50 and $62.70.

Required:

All journal entries relevant to the above policy for the period October 1, 1960 through June 30, 1962.

Assignment Material for Chapter 9

Questions

Question 9-1. For what two general purposes may a statement of affairs be prepared? In what way will statements prepared for these two purposes differ?

Question 9-2. Describe the differences between a balance sheet and a statement of affairs.

Question 9-3. Why is the balance sheet classification of assets usually an illogical one to use in a statement of affairs? How should the asset side of a statement of affairs be classified? Can you think of any circumstances under which the balance sheet classification of assets might properly be used in a statement of affairs?

Question 9-4. List some liabilities having priority. Why do they have priority? How should they be shown in the statement of affairs?

Question 9-5. Explain the method of presentation in a statement of affairs for each of the following:

(a) Offsetting partially secured liabilities and the security.
(b) Offsetting fully secured liabilities and the security.
(c) A contingent liability on notes receivable discounted.

Question 9-6. Discuss the location of accrued interest in the statement of affairs.

Question 9-7. What valuation is assigned to Unexpired Insurance in the statement of affairs?

Question 9-8. Mention some of the procedures available for businesses in financial difficulty.

Problems

Problem 9-1. Prepare a statement of affairs and a deficiency account as of December 31, 1960, from the following information relative to the financial condition of The Sexton Store, Inc.

Cash		$ 1,800
Accounts receivable:		
Good	$ 3,500	
Doubtful (estimated to realize 50%)	500	
Bad	900	4,900
Notes receivable:		
Secured	$ 2,500	
Unsecured (estimated value, $800)	1,000	3,500
Inventories (estimated value, $30,000)		35,000
Store furniture (estimated value, $300)		750
Bonds (at market value):		
Company *B*—Pledged to banks for loans	$ 7,500	
Company *C*—Pledged with notes payable—Trade creditors	5,500	
Company *A*—On hand	3,000	16,000
Deficit		29,000
		$90,950

Accounts payable		$35,550
Notes payable:		
Banks	$ 6,000	
Trade creditors	24,000	30,000
Accrued wages		400
Capital stock		25,000
		$90,950

Problem 9-2. The books of Holmes and Parr, on April 30, 1961, disclosed the following financial condition:

Assets:	
Cash	$ 750
Accounts receivable	39,500
Inventory	26,800
Bonds of *X Y* Company	10,000
Land and building	35,000
Machinery and equipment	17,500
	$129,550
Liabilities and partners' capital:	
Accounts payable	$ 86,300
Notes payable:	
First National Bank	4,000
First State Bank	6,000
Trade	5,000
Accrued wages	750
Holmes, capital	13,500
Parr, capital	14,000
	$129,550

The estimated values of the assets were:

Cash—book value.	
Accounts receivable:	
Good	$20,000
Doubtful—estimated value, 50%	10,000
Bad	9,500
Inventory	22,000
Bonds of *X Y* Company—book value.	
Land and building	25,000
Machinery and equipment	12,500

Half of the bonds were held by the First National Bank and the other half by the First State Bank, as collateral for the notes payable.

Prepare a statement of affairs and a deficiency account.

Problem 9-3. On-Time Delivery Service, Inc., has called a meeting of its creditors for the purpose of working out a composition settlement. Prepare a statement of affairs for use by the company in the forthcoming meeting.

Data from the company's balance sheet follow:

Cash	$ 634	Accrued wages		$ 3,150
Accounts receivable	28,658	Accounts payable		83,170
Supplies	1,389	Notes on trucks		38,600
Prepaid insurance	1,560	Capital stock	$10,000	
Trucks	57,540	Less deficit	45,139	
		Capital deficiency		35,139*
	$89,781			$89,781

Current values for the assets are set forth below.

Prepaid insurance	$ 720
Supplies	500
Trucks	45,000
Accounts receivable	25,000

Legal proceedings would probably cost the company $8,000.

Although the trucks are subject to repossession by the finance company if the notes are not paid, it may be assumed that repossession would be stayed if bankruptcy proceedings were begun.

Problem 9-4. The following is a trial balance of the books of *XYZ* Manufacturing Company, which has been declared bankrupt:

Trial Balance—June 30, 1960

Land and buildings	125,000	
Capital stock		300,000
Machinery and equipment	160,000	
Customers' accounts receivable	170,000	
Notes payable		250,000
Accounts payable		309,000
Accrued wages		3,000
Mortgage on buildings		65,000
Notes receivable	26,000	
Accrued interest on mortgage		2,500
Cash on hand and in bank	9,500	
Inventory of raw material	85,000	
Inventory of finished goods	121,000	
Investments	12,000	
Deficit	221,000	
	929,500	929,500

The land and buildings are appraised at $101,000, and the machinery and equipment at $135,000. An examination of the customers' accounts shows the following condition: good, $95,000; doubtful (expect to collect $33\frac{1}{3}$%), $51,000; bad, $24,000. The holders of $12,000 of the notes payable hold as security notes receivable with a face value of $15,000 but worth only $10,000. A creditor with $55,000 on open account has in his possession the stock certificates for the investments assigned in blank, and finished goods pledged having a value of $16,000. An examination of the notes receivable shows $9,000 good for collection and $17,000 doubtful, on which 50% will probably be collected. The investments have a market value of $16,500. The inventories are expected to realize book value.

Prepare a statement of affairs for submission to creditors, showing the number of cents on the dollar available for the unsecured claims of the creditors; also prepare a deficiency account.

Problem 9-5. Tyler Shaw, who has made an assignment for the benefit of his creditors, lists the following assets, together with his creditors and their claims on December 31, 1960:

Assets:

- Building and equipment, $15,000; estimated value, $9,000.
- Cash, $533 (includes petty cash, in which there are expense vouchers of $133).
- Investments (stock), $20,000; estimated value, $16,000.
- Raw materials, supplies, and goods in process, book value, $8,500; estimated to realize, $6,200.

Creditors:

Accounts payable:	
James Jason	$ 7,200
Walter Ferrington	11,300
Hudson M. Marlingworth	5,200

Employees, $600 for accrued wages.

Union Eagle National Bank, holding notes of $16,000, secured by bonds having a book value of $21,000 and an estimated value of $17,580.

Cryhake Distributing Corporation, holding notes of $10,000, unsecured, and notes of $8,500 secured by warehouse receipts for finished goods of a book value of $8,000 and an estimated value of $6,000.

The creditors' committee asks you to prepare statements showing the payments that can be made to each of the several creditors on the basis of the above information.

Problem 9-6. You are to write a report on Portly Men's Wear, Inc., which is financially embarrassed, stating what action you think should be taken, and making any proposals you believe practical which might continue the business as a going concern. Include a statement of affairs in your report.

PORTLY MEN'S WEAR, INC.
Balance Sheet
December 31, 1961

Cash		$ 12,340	Accounts payable	$ 165,320
Accounts receivable	$185,420		Notes payable	140,000
Less allowance for bad debts	4,652	180,768	Mortgage payable—6%	400,000
Inventory		265,402	Capital stock	400,000
Fixed assets—net		652,490	Retained earnings	105,680
Goodwill		100,000		
		$1,211,000		$1,211,000

In your examination of the company, you find that, of the accounts receivable, $75,400 are more than one year old and a recovery of only $25,000 is likely. Of the remainder, $80,000 which are considered good are pledged to a finance company for a loan of $60,000, carried in the Notes Payable account. The allowance on the books is considered sufficient to cover losses on accounts not classified as old.

Maintenance charges have been capitalized, and the depreciation charged has been inadequate by about $22,000 a year. The property is appraised at $420,000. The goodwill is valueless.

Included in accounts payable are accrued wages amounting to $2,360. Accounts payable also include $30,000 owed to the president of the company, who is its principal stockholder.

Much of the inventory is obsolete, and a portion priced at $84,300 would probably bring only $15,000 in the market. The company's annual sales average about $650,000.

The mortgage must be paid off at the rate of $50,000 a year, beginning at the end of two years.

The company has shown earnings of about $15,000 for several years, but has not paid any dividends for ten years.

Problem 9-7. From the following data, prepare a statement of affairs to be submitted to a bank in support of an application for an unsecured loan.

MANUFACTURERS, INCORPORATED
Balance Sheet
August 31, 1960

Assets

Current assets:			
Cash		$ 2,135	
Accounts receivable	$12,300		
Reserve for bad debts	975	11,325	
Notes receivable	$ 8,000		
Reserve for loss	500	7,500	
Accrued interest on notes		75	
Inventories:			
Finished goods	$ 8,300		
Goods in process	6,120		
Raw materials	6,170	20,590	
Prepaid expenses:			
Unexpired insurance	$ 400		
Prepaid interest on bank loans	50	450	$ 42,075
Investment in stock of Davis Corporation			12,000
Fixed assets:			
Land		$ 8,000	
Buildings	$40,000		
Reserve for depreciation	7,500	32,500	
Machinery	$16,000		
Reserve for depreciation	4,500	11,500	52,000
			$106,075

Liabilities and Stockholders' Equity

Current liabilities:		
Accounts payable	$ 7,500	
Notes payable	5,000	
Bank loans	10,000	
Accrued interest on mortgage	275	
Accrued interest on notes payable	150	
Accrued taxes	200	$ 23,125
Mortgage on land and buildings		15,000
Stockholders' equity:		
Capital stock	$50,000	
Retained earnings	17,950	67,950
		$106,075

The reserve for bad debts is regarded as an adequate provision for losses on accounts receivable. A noninterest-bearing note for $750 is probably uncollectible; the other notes are good.

Finished goods should sell for $12,000. The goods in process will be completed by using materials carried at $800 and by making other expenditures of $900; as finished goods, they should sell for $9,500. The raw materials are conservatively valued in the balance sheet.

The Davis Corporation stock has a market value of $11,500; it has been deposited as collateral to the bank loans.

The land and buildings were appraised on June 30, 1960, at a value of $27,500. The machinery is estimated to be worth $9,000 at forced sale.

Noninterest-bearing notes of a face value of $6,000, regarded as collectible, have been pledged as collateral to the notes payable.

Required:

(1) A statement of affairs, with assets classified in the sequence used for a going-concern balance sheet.
(2) The asset side of a statement of affairs, with assets classified according to their status as pledged or free.

Problem 9-8. A receiver was appointed on September 30, 1960, to take charge of the affairs of Davidson Manufacturing Company, whose balance sheet appears below.

DAVIDSON MANUFACTURING COMPANY
Balance Sheet
September 30, 1960

Assets			Liabilities and Stockholders' Equity	
Cash		$ 250	Mortgage payable—Real estate	$ 25,000
Accounts receivable		42,375	Notes payable—Loans	50,000
Finished goods		55,960	Notes payable—Trade creditors	13,500
Goods in process		12,690	Accounts payable	65,000
Raw materials		16,125	Accrued accounts:	
Unexpired insurance		300	Interest on mortgage	1,500
Goodwill		40,000	Interest on notes payable	3,150
Factory real estate	$43,000		Wages	2,000
Less accumulated depreciation	6,850	36,150	Capital stock	50,000
Factory equipment	$31,000		Retained earnings	18,825
Less accumulated depreciation	5,875	25,125		
		$228,975		$228,975

The company was contingently liable on the date of the balance sheet for notes receivable discounted in the amount of $6,000, of which it was estimated that $2,000 would have to be paid by the company as indorser without any likelihood of subsequent recovery.

The company has made moderate earnings on the sale of its standard products, which it has marketed under the trademark "Testmark." Recently an expensive advertising campaign has been conducted to popularize this trademark, the cost of the advertising having been charged in large measure to Goodwill.

The accounts receivable are classified as follows:

Good	$16,500
Doubtful (estimated value, $3,500)	13,800
Bad	12,075

An offer has been received from a competitor who proposes to pay $45,000 for the finished stock, $10,000 for the trademark, and $15,000 for the goods in process after their completion. It is estimated that the completion of these goods will require $2,000 worth of raw materials and an expenditure of $2,500 for labor and other expenses.

The raw materials not required for the completion of goods in process are thought to be worth $13,000. As of September 30, the insurance policies have a cancellation value of $225.

Factory real estate is worth $40,000; factory equipment, $6,000.

It is discovered that raw materials carried on the books at a value of $5,000, and estimated to be worth $4,500, are held on consignment, a liability of $5,000 having been taken up in accounts payable.

Warehouse receipts for all finished goods are held by the holders of loan notes payable of $50,000. Interest of $2,500 is accrued on these loans.

Prepare a statement of affairs and a deficiency account.

Problem 9-9. The Stephen Addams Mfg. Company has been forced into bankruptcy as of March 31, 1961. The following balance sheet was prepared by the company's bookkeeper.

THE STEPHEN ADDAMS MFG. COMPANY
Balance Sheet
March 31, 1961

Assets	
Cash in Federal Bank	$ 2,700
Accounts receivable	39,350
Notes receivable	18,500
Inventories:	
Raw materials	19,600
Goods in process	35,100
Finished goods	12,000
Supplies	6,450
Tools	14,700
Prepaid expenses	950
Plant and property:	
Land	20,000
Buildings, less accumulated depreciation of $33,750	41,250
Machinery, less accumulated depreciation of $32,100	48,800
	$259,400
Liabilities and Stockholders' Equity	
Note payable to State Bank	$ 15,000
Notes payable to suppliers	51,250
Accounts payable	52,000
Accrued salaries and wages (February and March)	8,850
Accrued property taxes	2,900
Employees' taxes withheld	1,150
Accrued wage taxes	600
Accrued interest on bonds	1,800
First mortgage bonds payable	90,000
Common stock ($100 par value)	75,000
Deficit	(39,150)
	$259,400

Additional information:

(1) Of the total accounts receivable, $10,300 are believed to be good. The other accounts are doubtful, but it seems probable that 20% finally can be collected.

(2) A total of $15,000 of the notes receivable has been pledged to secure the note payable to State Bank. All except $2,500 of these appear to be good. The unpledged notes are also considered uncollectible. Interest of $800 is accrued on the $12,500 of good notes pledged and $300 is accrued on the $15,000 payable to the bank.

(3) The finished goods are expected to be sold for one-third above their cost, but expenses in disposing of them will equal 20% of their sales price. Goods in process can be completed at an additional cost of $15,400, of which $3,700 would be material used from the raw materials inventory. The goods in process, when completed, will probably sell for $40,000; the selling expense will be 20% of sales price. The raw material not used

will realize $8,000. Most of the tools are usable only in the production of special items. After completion of goods in process, the tools should sell for $3,000. The supplies inventory which will not be needed to complete work should sell for $1,000.

(4) Land and buildings are mortgaged as security for bonds. They have an appraised value of $95,000. The company recently purchased $20,000 of machinery on a conditional sales contract. It still owes $12,000 principal on this contract, which is included in notes payable. These machines have a current used value of $10,000. Depreciation taken on these machines amounts to $1,800. The remaining machinery is believed to be salable at $10,000, but the cost of selling it may be $1,000.

Required:

(a) A statement of affairs.
(b) A deficiency account.
(c) The percentage of probable payments to the creditors holding the $52,000 of accounts payable.

Problem 9-10. Bootstrap Sellers, Inc., has been finding it increasingly difficult to meet its obligations. Although its sales volume appeared to be satisfactory and it was showing a profit, the company was unable to provide capital requirements for inventory and time contracts. Finally, after pledging all of its installment accounts, it found itself unable to meet the bills falling due on February 10, 1961. It is the opinion of the management that if it could obtain an extension of time in which to pay its obligations, it could meet them in full. Accordingly, the company has arranged for a meeting of creditors to determine whether the company should be granted an extension or be forced into bankruptcy.

In connection with this meeting, you have been engaged to:

1. prepare a statement of affairs;
2. prepare a statement of estimated deficiency to unsecured creditors; and
3. compute the per cent of recovery by creditors on their unsecured claims if the company were to be forced into bankruptcy.

You are provided with the trial balance on the following page.

From investigation you obtain the following additional data:

(a) The company's fiscal year ends June 30.
(b) Depreciation, bad debts, and prepaid and accrued items have all been adjusted as of January 31, 1961.
(c) All installment contracts had been pledged with the bank on January 31, 1961; the bank had deducted its interest to date and had increased the company loan to equal 75% of the face amount of the contracts in accordance with the loan agreement. Forced liquidation probably would result in a loss of $40,000 from the face amount of the contracts.
(d) Thirty-day accounts receivable were not pledged, and it was estimated that they would provide $16,500 on a liquidation basis.
(e) The Surplus account includes premiums on the issuance of capital stock, $13,150, and discounts on the issuance of capital stock, $16,110; the balance of the account represents accumulated deficits and undistributed earnings of prior fiscal periods. Applicable state laws permit the assessment, on behalf of creditors, of stockholders for the unpaid par amounts of issued capital stock. It is estimated that $10,000 of the stock discounts is recoverable.

BOOTSTRAP SELLERS, INC.
Trial Balance
January 31, 1961

Cash on hand	500	
Cash in bank	1,620	
Installment contracts—pledged	215,000	
Allowance for bad contracts		13,440
Accounts receivable—30-day	20,830	
Allowance for bad debts		1,050
Inventory—July 1, 1960	151,150	
Unexpired insurance	1,490	
Autos and trucks	22,380	
Allowance for depreciation—Autos and trucks		14,960
Furniture and equipment	12,500	
Allowance for depreciation—Furniture and equipment		2,140
Building	89,760	
Allowance for depreciation—Building		7,530
Land	10,240	
Organization costs	880	
Trade accounts payable		132,100
Contract payable—Furniture and equipment		5,800
Chattel mortgage on autos and trucks		10,000
Bank loan—secured by installment contracts		161,250
Taxes payable		14,220
Accrued salaries and wages		4,680
Accrued interest		10,990
Notes payable—Stockholders		100,000
First mortgage		49,000
Capital stock—par		100,000
Surplus	65,290	
Sales		708,900
Purchases	527,630	
Expenses and miscellaneous revenues (net)	216,790	
	1,336,060	1,336,060

(f) It was estimated that since July 1, 1960, the company had made a gross profit of 33⅓%, but that the inventory on hand as of January 31, 1961, would provide only $100,000 on a forced liquidation.

(g) Cancellation of the insurance would provide $990.

(h) All of the autos and trucks were covered by a chattel mortgage, and their total market value was $8,000. There was no interest accrued on the chattel mortgage.

(i) Furniture and equipment had been acquired on contract. Because of its special utility, it was estimated that on a forced sale no more than $5,000 could be expected. The contract was secured by the furniture and equipment.

(j) The land and buildings were subject to a 6% first mortgage, on which interest had been paid to November 30, 1960. It was estimated that the property could be sold for $75,000.

(k) The notes payable to stockholders had not been subordinated to liabilities to general creditors. The notes carried a 6% rate of interest, but no interest had been paid since April 30, 1959.

(l) Since prior income tax returns disclosed a large available net operating loss carry-over, no current income tax need be considered.

(m) The cost of liquidation proceedings was estimated to be $5,000.

(n) There appeared to be no other values on liquidation and no unrecorded liabilities.

Problem 9-11. The creditors of Capital Goods Mfg. Co. have asked you to prepare a statement of affairs as of September 18, 1960. Relevant information is as follows:

CAPITAL GOODS MFG. CO.
Trial Balance
September 18, 1960

Cash in Last Stand Bank	26,000	
Cash in First Reliable Bank	81,000	
Accounts receivable	176,000	
Notes receivable	60,000	
Raw materials	110,000	
Goods in process	178,000	
Finished goods	407,000	
Accrued interest on notes receivable	800	
Office and factory supplies	4,300	
Goodwill	90,000	
Advances to Utopia, Inc	40,000	
Prepaid insurance	3,100	
Investment in Topsy Co. stock	18,900	
Sinking fund—Bonds	108,000	
Discount on bonds	25,500	
Building and land	475,000	
Machinery and equipment	564,000	
Reserve for doubtful accounts and notes		17,000
Reserve for depreciation—Building		280,000
Reserve for depreciation—Machinery and equipment		206,000
Unsecured bank loan—Second State Bank		125,000
Interest accrued on bank loan		4,000
Reserve for estimated income taxes		65,000
Reserve for bond sinking fund		108,000
Accounts and notes payable		560,000
Accrued wages		2,000
Accrued interest on mortgage bonds		13,000
Accrued interest on notes		1,700
Estimated liability for contingencies		130,000
Mortgage bonds payable		400,000
Reserve for deferred federal income taxes		75,000
Capital stock		420,000
Retained earnings	39,100	
	2,406,700	2,406,700

Office and factory supplies can be sold for $1,500. The prepaid insurance is valueless.

Last Stand Bank closed its doors on July 17, 1959. It is the opinion of legal counsel that the bank, the deposits of which are not insured, will be unable to pay anything to depositors.

The First Reliable Bank is solvent and operating.

Of the accounts receivable, $30,000 are deemed to be worthless. On $75,000, an estimated 40% can be collected. The remainder are good.

The notes receivable and accrued interest are good and collectible. A note discounted at the First Local Bank will not be paid at maturity; face of this note is $2,200. The maker is known to be insolvent.

The advances to Utopia, Inc., are unsecured. The company is in the hands of a receiver, and it is expected that it will pay its creditors at the rate of thirty cents on the dollar.

The inventories are expected to realize as follows:

Finished goods	$280,000
Goods in process (after using $30,000 book value of raw materials and incurring other costs of $85,000)	180,000
Raw materials (less what would be used to complete goods in process)	58,000

The notes payable consist of one note for $20,000 with accrued interest of $600, and four other notes aggregating $42,000 on which $1,300 interest has accrued. The holder of the $20,000 note also holds the Topsy Co. stock as collateral. Of the accrued interest on notes payable, $700 is applicable to unsecured notes.

Of the $42,000 notes payable mentioned above, one note for $16,000, on which $300 interest has accrued, is secured by notes receivable of $15,900, on which $600 interest has accrued. Another note for $7,000 with accrued interest of $100 thereon is secured by warehouse receipts for finished goods having a book value of $7,300 and an estimated realizable value of $6,400. The remaining notes payable are unsecured.

The goodwill has no value.

According to an agreement between the company and the bond trustees, and ratified by the bondholders, the claim of the bondholders as to principal is set at $390,000, and any proceeds from the sale of the building and land in excess of that figure will become available to general creditors of the company. At this time, it is estimated that the building and land will, at a forced sale, yield $300,000.

The machinery and equipment, if sold, would probably produce $100,000.

The market price today of Topsy Co. Stock is $2 per share, although a sale of the company's 5,000 shares would probably depress the market price somewhat and yield only $9,200.

The contingencies account was established in anticipation of an unfavorable judgment in a patent infringement suit brought against the company. The case is still pending, but the company's legal counsel now places the estimate of damages at $200,000.

Except for $300, the accrued wages were incurred since August 1. Of the $300, $100 was incurred during July and $200 was incurred during May. Of the employees involved, only one is owed more than $600. He joined the company on July 26, 1960; he has earned $900, of which $100 has been paid.

Administrative expenses of preserving the company's assets subsequent to filing a bankruptcy petition are estimated at $2,700.

The Reserve for Deferred Federal Income Taxes relates to the difference between the actual tax levies (for 1958 and 1959) and the tax liability which would have existed had the company used the same depreciation method for tax computation as it does for accounting purposes.

Problem 9-12. The partnership of Duncan & Harvey, which is finding difficulty in meeting its maturing debts, is considering dissolution—a process which would require six months. The bookkeeper prepared the trial balance on the opposite page.

An analysis of the accounts revealed the following:

(1) All finished goods can be sold for 80% of their cost. Goods in process cannot be sold until finished and can be completed by incurring material and labor costs of $9,000, of which $3,000 will be from the raw materials inventory. The balance of the raw materials inventory will realize $5,000.

DUNCAN & HARVEY
Trial Balance
October 15, 1960

Cash in banks	20,000	
Accounts receivable	100,000	
Allowance for doubtful accounts		4,000
Interest receivable	700	
Notes receivable	58,000	
Notes receivable discounted		12,000
Raw materials	9,000	
Goods in process	20,000	
Finished goods	15,000	
Prepaid insurance	1,200	
Property held in trust	18,000	
Machinery and equipment (at cost)	9,000	
Building	33,000	
Land	12,000	
Accumulated depreciation		6,000
Pay roll taxes payable		200
Real estate taxes		1,200
Wages payable		3,450
Notes payable		60,000
Accounts payable		125,700
Mortgage payable (4%)		40,000
Equipment contract payable (the equipment was purchased on a conditional sale contract)		6,400
Interest payable		1,000
Duncan, capital		15,975
Harvey, capital		1,975
Trust principal		18,000
	295,900	295,900

(2) The wages and commissions were last paid in full on June 30. Commission salesmen were dismissed on August 15. Accrued wages in the trial balance are:

Snodgrass, bookkeeper (to October 15)	$1,400
Commission salesmen (incurred evenly from July 1 to August 15)	300
Duncan, managing partner (to October 15)	1,750
	$3,450

(3) The partnership owes State Bank on a note of $10,000.
(4) Cash in City Bank, $8,000; in State Bank, $12,000.
(5) Of the notes which were discounted at National Bank, it is estimated that one, for $2,000, will not be paid at maturity or thereafter. This note does not carry interest.
(6) The insurance policies expire April 15, 1961; they have a cancellation value on October 15 of $900.
(7) The property held in trust is in the form of stocks and bonds with a realizable value of $24,000. The partnership is entitled to a fee of $600 per year, payable October 15, for services. Cash was not available in the trust for the payment; therefore, the fee was not recorded.
(8) Of the accounts receivable, 60% are good and fully collectible, 30% are doubtful and considered to be only 80% collectible, and the remaining 10% are worthless.

(9) All notes on hand are good and are pledged as security on notes payable to the Risk-Bearing Financial Co. of $50,000 with accrued interest of $500.

(10) The machinery and equipment, with a book value of $8,000, will realize $5,000. All of the machinery and equipment was purchased under the same conditional sale contract.

(11) The land and building can be sold for $38,000; however, the mortgage holder has indicated a willingness to cancel the debt and assume all encumbrances for the surrender of title to the real estate. Interest on the mortgage was last paid on July 15.

(12) The estimated administrative expenses are $3,000.

(13) While Duncan has personal liabilities which are approximately equal to his personal assets, Harvey's personal assets exceed his personal liabilities by $2,800. Duncan and Harvey share profits and losses equally.

Required:

(a) A statement of affairs.
(b) A deficiency account.

Assignment Material for Chapter 10

Questions

Question 10-1. Why is it considered desirable for a receiver to use temporary accounts when recording the payment of "old" liabilities?

Question 10-2. Describe the procedure for recording the payment by the receiver of liabilities that existed before receivership:

(a) on the receiver's books.
(b) on the corporation's books.

Question 10-3. State briefly how you would proceed to open a set of books for the receiver of a small manufacturing concern, the court having issued an order that the receiver should continue manufacturing.

Question 10-4. When a receiver in equity takes charge of a business, why is it advisable for him to leave the liabilities on the old books?

Question 10-5. If a receiver in equity is carrying on the operations of a business in financial difficulty, describe the procedure to be followed with respect to the accrual and payment of interest on old notes payable.

Question 10-6. Why is it usually desirable for a receiver in equity to open a new set of books when he takes over the direction of a business in financial trouble?

Question 10-7. Describe the procedure to be followed in closing the receiver's books at the end of a regular accounting period. How would these entries differ from those made when the receivership was terminated?

Problems

Problem 10-1. On July 1, 1960, Thomas Marley was appointed receiver for Goodley Industries. The account balances listed below are taken from the adjusted trial balance of the receiver's books as of the close of the fiscal year ending June 30, 1961.

Accounts receivable—New	118,202
Accounts receivable—Old	24,140
Goodley Industries—In receivership	1,234,567
Revenue and expense (debit balance)	11,404
Goodley Industries—Notes payable paid (noninterest)	12,000
Goodley Industries—Accounts payable paid	35,620
Allowance for doubtful accounts—New	18,500
Allowance for doubtful accounts—Old	4,330
Goodley Industries—Accrued bond interest paid	5,000
Goodley Industries—Bond interest paid	15,000
Accounts payable—New	46,555

The liabilities remaining on the books of Goodley Industries include $500,000 of 4% bonds maturing in 10 years. The bonds were issued at par.

Prepare journal entries to close those of the above accounts which should be closed on June 30, 1961. The receivership is not being terminated. Also submit any closing entries that would be made on the books of Goodley Industries, giving consideration to the data presented in the problem.

Problem 10-2. The following matters arose during the calendar year 1961 in the affairs of Promotional Corporation, which is being operated by Ralph Jones, the receiver.

(a) Jones paid interest, accrued on the corporation's books at the end of 1960, on old bonds payable, in the amount of $10,200.
(b) The receiver retired $40,000 of the outstanding bonds at par.
(c) Jones paid interest applicable to 1961 on an old mortgage payable, in the amount of $3,300. The mortgage interest expense for the full year amounted to $4,400.
(d) On December 31, 1961, there was $21,000 of unpaid interest which had accrued during the receivership on the old bonds payable. Approval for payment of this sum had not been received at year end, and no accrual has been made on either set of books.
(e) The Revenue and Expense account in the receiver's books on December 31, 1961, showed a debit balance of $5,940, after all revenue and expense accounts had been closed.

Required:

(a) Journal entries for the above on the books of the receiver.
(b) Journal entries for the above, where appropriate, on the corporation's books.

Problem 10-3. A business is unable to meet its obligations. Its balance sheet is presented below.

REED COMPANY
Balance Sheet
December 31, 1960

Cash	$ 3,246	Accounts payable		$ 82,465
Accounts receivable	48,534			
Inventory	75,620	Capital stock	$150,000	
Fixed assets	124,340	Retained earnings	19,275	169,275
	$251,740			$251,740

A. D. Evans is appointed receiver and is authorized to take over all of the company's assets. He finds that the fixed assets have never been depreciated, no uncollectible accounts have been written off, and obsolete merchandise is included in the inventory at cost. To avoid showing these overvaluations as losses incurred during his receivership, he insists that the company provide for past depreciation of $63,190 and for uncollectible accounts of $6,420, and write the inventory down to $42,460 before he takes possession of the assets.

During the following year he collects $39,400 on the accounts receivable and decides that the remainder are uncollectible. He purchases $423,200 worth of merchandise, and pays all but $22,000 of the liabilities for it. His sales are $562,140, of which all but $34,680 is collected, and he sets up an allowance of $1,250 against this amount. His expenses were $94,365, of which $12,414 is unpaid at the end of the year. His closing inventory is $37,140. He charges 5% depreciation on the fixed assets. He collects his fee of $12,500 and makes an 80% payment to the creditors having claims before the receivership. He then returns the business to its owners.

Present journal entries for the above on the receiver's books and the company's books.

Problem 10-4. Kennedy Hotel Company is unable to meet the interest on its bonds, and the court appoints Joe Wills as receiver in equity to operate the business until such time as its affairs are brought into order. The balance sheet of the company follows:

KENNEDY HOTEL COMPANY
Balance Sheet
June 30, 1960

Cash	$ 3,264	Accounts payable		$ 34,642
Accounts receivable, after deducting allowance for doubtful accounts of $3,000	16,134	Accrued bond interest		7,500
		Bonds payable—6%		250,000
Supplies inventory	6,853			
Land	60,000	Capital stock	$500,000	
Building, after deducting accumulated depreciation of $180,000	420,000	Less deficit	137,531	362,469
Equipment, after deducting accumulated depreciation of $140,000	148,360			
	$654,611			$654,611

The receiver takes possession of all assets except land and building.

During the first year, the receiver collects $10,480 on the accounts receivable and writes off the rest of the accounts as uncollectible. The total revenues from operations amount to $244,675, of which all but $8,240 is collected. An allowance for doubtful accounts in the amount of $1,240 is set up against these balances.

The operating expenses, exclusive of the provision for uncollectible accounts, losses on realization, receiver's fee, and depreciation charges are recorded as $188,435, of which $12,165 remains unpaid. This total gives no consideration to the consumption of supplies.

Supplies carried at $2,550 in the June 30, 1960 balance sheet are sold for $2,000. The ending inventory of supplies amounts to $3,200.

Much of the equipment is obsolete or no longer usable. Equipment carried at $26,825, and which is 50% depreciated, is sold for $18,500, and new equipment costing $12,000 is purchased for cash. Depreciation at 10% per annum is taken on the equipment, on the basis of the closing balance, and is adjusted for half a year's depreciation on the new equipment.

The receiver pays the accounts payable, accrued bond interest and bond interest for the year, and his fee of $12,000. The company provides $13,800 depreciation on the building.

Prepare entries in journal form for the books of the receiver and the company to record the stated facts and to close the books. Also prepare working papers for the year ended June 30, 1961. The receivership is not to be terminated as of June 30, 1961.

Problem 10-5. Jackson Company, finding its credit impaired, prepared the following statement, as of January 1, 1961:

Assets		Liabilities and Stockholders' Equity	
Cash	$ 2,107	Accounts payable	$480,201
Accounts receivable	184,216		
Inventory	345,756	Capital stock	100,000
Fixed assets—net	248,607	Retained earnings	200,485
	$780,686		$780,686

The corporation applied for a receiver; A. L. Sands was appointed and granted permission to operate.

The receiver took over the assets as shown in the above statement, first requiring that the merchandise be written down to $290,110 and the accounts receivable to $152,600.

On May 31, 1961, the receiver had collected all of the accounts receivable taken over, with a further loss of $12,170; had made sales on account of $350,100; and had collected for all of these sales with the exception of $48,100 still carried as accounts receivable. He had paid old accounts payable of $350,510 and receiver's expenses of $75,415. He returned the business to the stockholders on this date, after charging $18,300 as depreciation. There was an inventory of $41,180.

Prepare all entries which should appear on the company's books and on the receiver's books, and submit a balance sheet of the company after the business was returned to the stockholders.

Problem 10-6. The following balances were taken from the books of Vendor Equipment Co.—In Receivership and Bryant Hughes—Receiver on December 31, 1961. The receiver's inventory on this date amounted to $92,140.

Cash	26,340	
Accounts receivable—Old	80,409	
Accounts receivable—New	32,412	
Allowance for bad debts—New		1,260
Merchandise—December 31, 1960	190,804	
Fixtures	42,800	
Accumulated depreciation		24,140
Trademark	24,930	
Accounts payable—New		58,371
Vendor Equipment Co.—In receivership		214,131
Sales		634,810
Sales discounts	8,306	
Purchases	264,320	
Purchase discounts		34,150
Depreciation of fixtures	4,280	
Bad debts expense	1,260	
Selling expenses	140,270	
General expenses	101,301	
Receiver's fees	18,400	
Loss on old receivables	16,230	
Mortgage interest expense	4,800	
Vendor Equipment Co.—Accounts payable paid	10,000	
Vendor Equipment Co.—Mortgage interest paid	4,800	
Bryant Hughes—Receiver	199,331	
Mortgage payable—due June 30, 1967		60,000
Capital stock—$50 par		150,000
Deficit	5,869	
	1,176,862	1,176,862

Required:

(a) A completed working paper containing the following column headings:

Receiver's Trial Balance
Company's Trial Balance
Eliminations
Income Statement
Balance Sheet

(b) Journal entries on the books of the company to record the termination of the receivership on December 31, 1961, and to close the books at year end.

Problem 10-7. The accountant for a receiver is unable to reconcile the reciprocal accounts between the receiver and the company in receivership. The two trial balances follow. From them and the data following, you are to prepare a statement reconciling the reciprocal accounts and showing adjusted trial balances. The receivership has been in operation for one year, ending October 31, 1961.

	Receiver's Books		The Morley Company—In Receivership	
Cash	40,533			
Accounts receivable—New	48,160			
Accounts receivable—Old	3,572			
Allowance for doubtful accounts	3,220			
Inventory	32,414			
Fixed assets	62,000		400,000	
Accumulated depreciation		7,400		120,000
Accounts payable		29,520		83,650
Bonds payable—6%				200,000
Accrued interest, October 31, 1960				7,500
Capital stock				500,000
Retained earnings			363,321	
G. M. Crane—Receiver			147,829	
Sales		522,000		
Purchases	424,650			
Expenses	128,050			
The Morley Company—In receivership		183,679		
	742,599	742,599	911,150	911,150

The receiver wrote off old accounts receivable amounting to $8,460 against the allowance account and provided $4,000 for bad debt losses on the new accounts receivable. The rest of the old accounts receivable are considered collectible. At the end of the year he sold fixed assets carried in the asset account at $42,000 for $12,000, crediting this amount to the Fixed Assets account. The accumulated depreciation on the receiver's books represents the amount provided by the receiver on the assets transferred to him, computed at 10%.

The fixed assets that were retained by the company should have been depreciated at 10%.

The receiver paid a 30% dividend on the accounts payable existing prior to receivership, and debited this amount to Accounts Payable on his own books. The reduction of the liability has been recorded on the company's books. In addition to this, he paid the interest for one year on the company's bonds, which he charged to Expenses.

The company has made no record of this payment.

The receiver, with the approval of the court, paid himself a fee of $10,000, which has been charged to Expenses.

Problem 10-8. On August 31, 1961, Grange Company made a general assignment to B. Britton for the benefit of creditors. The assignee intended to continue operations, and he opened a new set of books. The assignor's balance sheet on August 31 contained the accounts listed on the following page.

Debits		Credits	
Cash	$ 2,000	Accounts payable	$26,250
Notes receivable	10,000	First mortgage bonds, 6%	25,000
Accounts receivable	21,000	Accrued interest on bonds	750
Due from officers	3,000	Allowance for bad debts	2,000
Inventories	13,000	Accumulated depreciation	10,000
Equipment	40,000	Capital stock	20,000
		Retained earnings	5,000
	$89,000		$89,000

As it developed, the assignee conducted no operations, and by October 1, 1961, he had determined that the assets were not worth their book values and that a reorganization was impracticable. He decided to liquidate.

October 6—Inventories sold for $8,000.
October 17—Accounts receivable, excluding officers' accounts, sold for $10,000.
October 18—Officers paid $425 in full settlement of their accounts.
November 15—Notes receivable for $8,000 collected, and one for $2,000 settled for $750.
November 30—Equipment transferred to bondholders in complete satisfaction of their claims against the company.
November 30—20% payment on accounts payable.
December 15—The assignee paid his fee and expenses amounting to $3,600 and made a final payment to creditors.

Make journal entries in parallel columns to show how the transactions should be recorded on the books of the receiver and on the books of the company, and to close the two sets of books.

Problem 10-9. On April 30, 1957, Morgan Corporation was taken over by Sam Smith as receiver. The combined balance sheet three years later appeared as follows:

MORGAN CORPORATION—IN RECEIVERSHIP
SAM SMITH—RECEIVER
Balance Sheet
April 30, 1960

Assets			Liabilities and Net Worth	
Cash		$ 57,300	Accounts payable—New	$ 61,430
Accounts receivable—Old		46,000	Notes payable—Old	37,000
Accounts receivable—New		22,920	Chattel mortgage payable—	
Inventory		52,780	Old—5%	42,000
Notes receivable—Old		32,400	Accrued interest on mortgage	350
Equipment	$58,300		Capital stock	100,000
Less accumulated			Earned surplus	6,810
depreciation	22,110	36,190		
		$247,590		$247,590

As of the balance sheet date, the balance in the Morgan Corporation—In Receivership account was $186,160. The receiver continued to operate the business for one additional year, during which time the following occurred:

Purchases on account	$242,400
Sales on account	400,000
Final collections on old accounts	41,000

Cash collections on new accounts, after discounts of $3,800 taken by customers	$378,000
Payments on account	250,000
Payments for selling and administrative expenses	67,400
Provision for doubtful accounts—Receiver's sales	1,000
Depreciation taken on equipment—5%	2,915
Payment of mortgage interest, leaving $350 accrued and unpaid as of April 30, 1961	2,100
Payments for receiver's expenses	28,500
Disbursement to settle the old, noninterest notes	37,000
Sale of fully depreciated equipment costing $5,200, for cash	300
Provision for current year's income taxes	15,000

The April 30, 1961 inventory amounted to $51,500. The old notes receivable are noninterest-bearing and are considered collectible.

Required:

Journal entries on the receiver's books covering the year ended April 30, 1961, including the wind-up of the receivership as of April 30, 1961.

Problem 10-10. On June 30, 1960, a receiver in equity was appointed by the court to take over the assets and operate the business of Rider-Walker Company, whose balance sheet as of that date included the following accounts:

Land	$ 16,000	Accounts payable	$ 60,000
Buildings	65,000	Notes payable	25,000
Machinery	45,000	Reserve for depreciation—Buildings	8,300
Raw materials and supplies	5,000	Reserve for depreciation—Machinery	13,500
Goods in process	15,000	Reserve for doubtful accounts	2,000
Finished goods	21,000	Capital stock	150,000
Accounts receivable	35,000		
Cash	2,500		
Deficit	54,300		
	$258,800		$258,800

The receiver operated the business for a year, his transactions being as follows:

Purchases of raw materials and supplies on account	$ 86,350
Payments for direct labor	52,875
Payments for other factory expenses	26,932
Payments for selling and general expenses	18,275
Sales of finished goods on account	266,200
Collections from such sales	250,650
Payments for raw materials and supplies purchased on account	75,000
Collections of old accounts receivable	29,500

Of the remaining old accounts receivable, losses are expected which make a reserve of $3,500 appear desirable.

The receiver provides 5% depreciation on the buildings and 10% on the machinery and sets up a reserve of $1,500 against the new accounts receivable.

All of the old notes and accounts payable are paid, together with interest of $750 on the notes.

Inventories at the end of the year are:

Raw materials and supplies	$12,800
Goods in process	19,600
Finished goods	26,000

Make all necessary entries on the books of the company and the books of the receiver to record:

(a) The transfer of the business to the receiver.
(b) The operations during the receivership.
(c) The return of the business to the owners.

Also prepare an income statement for the year, supported by a schedule showing the cost of goods sold. You may accept the account-title terminology used by the company.

Problem 10-11. Adams Company was unable to meet its current obligations, and Robert Wilcox was appointed receiver. The receiver took over all of the assets at their June 30, 1960 carrying values. The post-closing trial balance on June 30, 1960, shows the following:

Cash	750	
Accounts receivable	95,400	
Allowance for bad debts		4,750
Notes receivable	3,500	
Raw materials	12,500	
Goods in process	25,000	
Finished goods	45,000	
Land	10,000	
Buildings	100,000	
Furniture and fixtures	6,000	
Machinery and equipment	50,000	
Tools	5,000	
Accumulated depreciation		28,000
Accounts payable		85,250
Notes payable		74,500
Accrued interest—Notes payable		2,000
Accrued interest—Bonds payable		750
Accrued taxes		1,400
6% first mortgage bonds		75,000
Capital stock		75,000
Retained earnings		6,500
	353,150	353,150

The transactions for the first year of the receivership are summarized as follows:

Collections on old accounts receivable:		
Total accounts		$ 95,400
Less:		
Discounts allowed	$ 790	
Accounts written off	5,875	6,665
Net cash		$ 88,735
Collections on old notes receivable		$ 3,500
Settlement of old notes payable:		
Total notes		$ 74,500
Receiver's certificates issued		50,000
Paid in cash		$ 24,500
Settlement of old accounts payable:		
Total accounts		$ 85,250
Receiver's certificates issued		65,000
Paid in cash		$ 20,250

Sales on account		$390,000
Provision for bad debts (½ of 1% of sales)		
Less:		
Returns and allowances	$ 2,700	
Discounts	2,500	
Accounts written off	450	
Cash received	336,350	342,000
Balance		$ 48,000
Cash disbursements:		
Purchases of raw materials		$ 93,650
Labor		94,500
Factory expense		51,360
Salesmen's salaries		27,500
Selling expense		15,750
Receiver's expenses		21,625
Bond interest (one year)		4,500
Taxes—Prior year		1,560
Taxes—Current year		1,200
Interest on notes payable		4,000

Prepare journal entries as they should appear on the company's books and the receiver's books, and the June 30, 1961 trial balances of both sets of books.

Adjustments are required for the following matters prior to preparing statements on June 30, 1961:

Accrued taxes		$1,250
Accrued bond interest		750
Accrued interest on receiver's certificates		550
Depreciation:		
Buildings	2%	
Machinery and equipment	10	
Furniture and fixtures	10	
Tools	20	

The June 30, 1961 inventories are set forth below:

Raw materials	$10,500
Goods in process	7,800
Finished goods	32,200

Prepare working papers with pairs of columns for:

Receiver's Trial Balance
Company's Trial Balance
Adjustments
Eliminations
Cost of Goods Sold
Income Statement
Balance Sheet

Assignment Material for Chapter 11

Questions

Question 11-1. Distinguish between a statement of affairs and a realization and liquidation account.

Question 11-2. List the classifications used in the statement of realization and liquidation (other than the balancing item), and describe briefly the nature of the items appearing under each classification.

Question 11-3. Why does the realization and liquidation account, which presents facts concerning assets and liabilities as well as those for revenue and expense, have a gain or a loss for a balancing amount?

Question 11-4. Show how you would present the following in a realization and liquidation account:

(a) Accumulated depreciation at the beginning of the period, depreciation for the period, and accumulated depreciation at the end of the period.
(b) Discounts allowed to customers.

Question 11-5. Describe two methods of handling a disbursement for an expense when a portion of the payment is applicable to an accrual existing as of the beginning of the period covered by the realization and liquidation account.

Question 11-6. The realization and liquidation account with its supporting statements may be prepared by a process of journalizing in the statements. Describe the offsetting debit and credit entries with respect to the following:

(a) The discovery of additional liabilities.
(b) The sale of merchandise on account.
(c) The collection of old accounts receivable at a loss.
(d) The collection of interest on notes, part of which was accrued prior to this period and part during this period.
(e) The discovery of additional assets.
(f) The purchase of merchandise, and payment therefor at a discount.
(g) The completion of a composition agreement with creditors.

Question 11-7. State why it is recommended that a distinction should be maintained between old and new accounts receivable and accounts payable.

Problems

Problem 11-1. The following data were taken from the trial balance of Pittsfield Company on July 31, 1961.

Cash	$ 11,320	Accounts payable	$ 22,000
Accounts receivable	23,400	Interest accrued on mortgage	312
Inventories	10,350	Mortgage on real estate, 6%	26,000
Land and buildings	55,000	Accumulated depreciation:	
Machinery	35,000	Buildings	5,000
Furniture and fixtures	9,700	Machinery	8,000
Tools	5,000	Furniture and fixtures	5,100
		Capital stock	60,000
		Retained earnings	23,358
	$149,770		$149,770

A stockholders' meeting was held on July 31, 1961, and dissolution was approved. The land and buildings were sold to the mortgagee for $35,000 as of August 15, 1961.

On October 1, 1961, when the liquidation was completed, the cash book showed the following:

> Debits: Land and buildings, $8,623; machinery, $24,500; tools, $2,100; furniture and fixtures, $3,700; accounts receivable, $21,000; inventories, $8,000.
>
> Credits: Accounts payable, $22,000; expenses, $1,600.

Prepare a realization and liquidation account and a cash account covering the above transactions.

Problem 11-2. On June 30, 1961, the trial balance of Style Company appeared as follows:

STYLE COMPANY
Trial Balance
June 30, 1961

Cash	4,200	
Accounts receivable	14,400	
Merchandise	18,300	
Furniture and fixtures	20,650	
Accumulated depreciation		12,800
Accounts payable		32,100
Accrued expenses		4,050
Capital stock		25,000
Retained earnings (deficit)	16,400	
	73,950	73,950

The following transactions occurred during the six months ended December 31, 1961:

(1) Merchandise purchased on account—$4,100.
(2) Merchandise sold on account—$28,200.
(3) Cash payments made:

Accrued expenses	$ 4,050
Old accounts payable	22,200
New accounts payable	2,900
Operating expenses	3,100
Total	$32,250

(4) Cash receipts:

Old accounts receivable	$ 8,200
New accounts receivable	26,200
Total	$34,400

(5) All old accounts receivable not collected were written off.
(6) Depreciation of furniture and fixtures—$1,040.

Indicate, by the preparation of offsetting debit and credit entries where appropriate, the effects of the above transactions on a realization and liquidation account.

Problem 11-3. The balance sheet on the following page was prepared for a retailing corporation on the day it began liquidation proceedings.

BONNER CORPORATION
Balance Sheet
May 1, 1961

Assets		Liabilities and Stockholders' Equity	
Cash	$12,200	Accounts payable	$31,400
Receivables	38,600	Interest payable	100
Merchandise	17,400	Mortgage payable	5,000
Delivery equipment (net)	5,900	Capital stock	50,000
Fixtures (net)	14,100	Retained earnings	1,700
	$88,200		$88,200

Receivables having a book value of $24,900 realized $21,300. The merchandise was sold for $12,000. The delivery equipment was taken by the mortgagee in full payment of the mortgage and accrued interest to date, in the amount of $150. The fixtures realized $6,700.

The accounts payable were paid, less discounts amounting to $2,100. Liquidation expenses, amounting to $3,200, were paid.

Prepare a statement of realization, liquidation, and operations covering the above transactions, which were completed during the four months ending August 31, 1961.

Problem 11-4. Flexi-Starter Corporation, having insufficient cash to continue operations, petitioned for a receiver. The following balance sheet, as prepared by the company on June 30, 1960, was given to Harold Cooper, the receiver, who was granted permission to operate.

FLEXI-STARTER CORPORATION
Balance Sheet
June 30, 1960

Assets			Liabilities and Stockholders' Equity	
Cash		$ 22,407	Accounts payable	$ 614,297
Accounts receivable		264,820		
Inventory		472,183	Capital stock	500,000
Fixed assets	$811,210		Retained earnings	225,513
Less accumulated depreciation	230,810	580,400		
		$1,339,810		$1,339,810

At the request of the receiver, the company wrote down the accounts receivable to $204,000 and the inventory to $406,500. The receiver took over the above assets at the balance sheet figures except as noted.

By June 30, 1961, he had made sales on account amounting to $740,320, collecting all but $62,920, which is carried as accounts receivable. All of the old accounts receivable remaining after the writedown were collected, but at an additional loss of $14,260. He paid $384,208 on old accounts payable and receiver's expenses of $209,112. He made purchases of $211,920 during the period, which were paid in full.

He returned the business to the stockholders on June 30, 1961, after charging $58,040 as depreciation.

The inventory amounted to $270,340.

Required:

(a) Realization and liquidation account.
(b) Realization income and loss statement.

Problem 11-5. Chandler Corporation took the following information from its books on September 30, 1960:

Debits		Credits		
Cash	$ 150	Mortgage on land and building		$12,000
Accounts receivable	3,130	Interest on mortgage		180
Work in process	24,320	Notes payable		8,500
Materials	9,625	Accounts payable		39,750
Bonds of other companies	9,600	Accrued salaries and wages		2,135
Land and building—net	19,600	Accrued taxes		115
Machinery and equipment—net	17,600	Capital stock	$50,000	
		Less deficit	28,655	21,345
	$84,025			$84,025

A program of liquidation was decided upon.

During the year ending September 30, 1961, the collections from accounts receivable totaled $2,500; the remaining accounts, with the exception of balances totaling $350, were written off.

Materials valued at $6,525 were used in completing work in process, and payments for labor, in the amount of $8,300, were made for the same purpose. The work in process, when completed, was disposed of for $38,000. The balance of the materials was sold for $2,950, cash.

Interest amounting to $75 was collected on the bonds owned, and the bonds were sold for $9,850.

The land and building were sold to the holder of the mortgage for $18,000. Additional bond interest amounting to $90 had accrued at the date of the settlement. The company received in cash the excess of the sale price over the principal and interest of the mortgage.

Machinery and equipment carried at $10,000 were sold for $9,000.

All liabilities on September 30, 1960, were settled in full, except notes payable totaling $3,500 and accounts payable totaling $9,500; the total payment for taxes, including the accrual on September 30, 1960, and the subsequent accrual, was $230.

Expenses of liquidation were $3,115.

Prepare a realization and liquidation account and a cash account for the year, and a balance sheet as of September 30, 1961.

Problem 11-6. The stockholders of Bleak Corporation resolved at their meeting on June 5, 1961, to liquidate as of August 31, 1961. The latest balance sheet of the corporation is presented below.

BLEAK CORPORATION
Balance Sheet
May 31, 1961

Assets		Liabilities and Stockholders' Equity	
Cash	$ 36,750	Accounts payable, including taxes	$ 15,600
Accounts receivable	33,500	Accrued pay roll	450
Merchandise	120,250	Mortgage interest payable	250
Land and building—net	30,000	6% mortgage due January 1, 1964	10,000
Equipment—net	20,500	Capital stock, 4,200 shares, $50 par value	210,000
		Retained earnings	4,700
	$241,000		$241,000

The stockholders' resolution accepted an offer of the directors (who were the principal stockholders) to serve without compensation in effecting the liquidation. The resolution stated further:

> The $15,000 cash offer of a real estate company for the equity in the land and building is to be accepted at once, the purchaser to assume the outstanding mortgage of $10,000 and to pay all expenses of sale. Title is to pass on June 30, 1961, and the corporation is to pay mortgage interest accrued to that date.
>
> For the two weeks ending June 26, all merchandise on hand is to be offered for sale at 80% of regular sales prices on a cash basis with no returns permitted. Any remaining merchandise is to be sold at auction.
>
> If realization and liquidation is complete, a final liquidating dividend is to be paid on September 1, 1961, to stockholders of record August 31, 1961.

In solving this problem, depreciation on the building subsequent to May 31, 1961, is to be ignored. All of the equipment is sold. It is estimated that $800 would be a fair charge for depreciation on the equipment for the months of June and July.

Following is a summary of the cash transactions for the three months ended August 31, 1961.

		Debit	Credit
June	Cash sales—regular	$ 5,850	
	Accounts receivable collections	23,500	
	Cash sales—20% discount	47,350	
	Cash received from auction sales:		
	Merchandise	31,500	
	Equipment	8,250	
	Liquidation expenses		$ 2,850
	Interest on mortgage		300
	Proceeds from sale of land and building	15,000	
	Officers' and office salaries (including separation payments and $450 accrued pay roll)		5,550
	Accounts payable, including taxes		15,600
July	Accounts receivable collections	1,250	
	Cash received from auction sales:		
	Merchandise	3,500	
	Equipment	2,300	
	Salary of manager-bookkeeper for July		400
August	Accounts receivable final collections	3,700	
	Collection agency fees		375
	Salary of manager-bookkeeper (including separation payment)		2,000
	Legal fees and expenses of liquidation		675
		$142,200	$27,750

Prepare a realization and liquidation account for the three months ending August 31, 1961. Also submit a realization income and loss statement.

Problem 11-7. On March 31, 1960, a receiver was appointed by the court to take over the assets and operate the business of Carlton Company. The company's balance sheet, prepared by its bookkeeper as of that date, is presented on the following page.

CARLTON COMPANY
Balance Sheet
March 31, 1960

Assets			Liabilities and Stockholders' Equity		
Cash		$ 6,540	Accounts payable		$158,920
Accounts receivable	$ 72,930		Notes payable		125,000
Allowance for bad debts	3,120	69,810	Capital stock	$300,000	
Materials		63,190	Less operating deficit	93,780	206,220
Work in process		31,200			
Finished goods		56,310			
Land		55,000			
Buildings	$225,000				
Accumulated depreciation	98,400	126,600			
Machinery	$168,400				
Accumulated depreciation	86,910	81,490			
		$490,140			$490,140

The receiver operated the business for one year, during which time the following transactions occurred:

Purchases of materials on account	$142,840
Sales of finished goods	639,700
Collections thereon	584,612
Payments on accounts payable for material purchases after deducting purchase discounts of $1,100	112,170
Collections on old accounts receivable	64,130
Payment for direct labor	122,830
Payment for indirect labor	24,300
Payment for manufacturing expense	47,390
Payment for selling and general expense	58,600

It appears that, of the remaining old accounts receivable, $4,100 are uncollectible.

The receiver provided depreciation at the rate of 5% on buildings and 10% on machinery. An allowance amounting to 1% of sales was set up on new accounts receivable.

All old liabilities were paid, together with interest in the amount of $4,710. Inventories at the end of the year were:

Materials	$41,080
Work in process	11,170
Finished goods	31,412

Required:

(a) A realization and liquidation account.
(b) A cash account.
(c) A balance sheet as of March 31, 1961.

Problem 11-8. Refer to the facts in Problem 11-7 and prepare a statement of realization, liquidation, and operations based thereon.

Problem 11-9. The partnership of Coulson, Campbell, and Weir was placed in the hands of a receiver on July 1, 1961, at which time the assets and liabilities were as follows:

	Debit	Credit
Cash	$ 300	
Accounts receivable	28,000	
Merchandise	32,000	
Unexpired insurance	500	
Bonds of Hoad Co	12,000	
Land	8,000	
Buildings	65,000	
Accumulated depreciation		$ 7,000
Accounts payable		45,000
Accrued interest on mortgage		175
Unpaid taxes		600
Notes payable (secured by Hoad Co. bonds)		17,000
Mortgage on land and buildings		35,000
Coulson, capital		21,380
Campbell, capital		11,975
Weir, capital		7,670
	$145,800	$145,800

The liquidator completed his work on August 15, 1961; the following transactions took place:

Assets realized:	
Accounts receivable	$24,000
Merchandise	26,000
Land and buildings	62,000
Bonds of Hoad Co	12,000
Unexpired insurance	80
Interest on bonds	60
All liabilities liquidated.	
Interest accrued after July 1, 1961, paid	85
Expenses of liquidator paid	250

Prepare a realization and liquidation account, a realization income and loss statement, and a cash account.

The partners share earnings as follows:

Coulson	40%
Campbell	40
Weir	20

Problem 11-10. Using the data presented in Problem 11-9, prepare a statement of realization, liquidation, and operations.

Assignment Material for Chapter 12

Problems

SECTION 1—Problems 1 through 34

Problem 12-1. State the rate per period and the number of periods in each of the following:

(a) 6% per annum, for 4 years, compounded annually.
(b) 6% per annum, for 4 years, compounded semiannually.
(c) 6% per annum, for 4 years, compounded quarterly.
(d) 6% per annum, for 4 years, compounded monthly.

Problem 12-2. Refer to the appropriate table and compute:

(a) The amount of \$100 for 5 years at 5% compounded annually.
(b) The amount of \$500 for 15 years at 3½% compounded annually.
(c) The amount of \$400 for 8 years at 3% compounded semiannually.
(d) The amount of \$2,500 for 7 years at 5% compounded quarterly.
(e) The amount of \$800 for 4 years at 6% compounded monthly.

Problem 12-3. What is the compound interest in each of the cases in the above problem?

Problem 12-4. Mr. Baker has \$1,000 to invest. He wishes to know how much it will amount to if he invests it at:

(a) 4% for 12 years.
(b) 5% for 10 years.

Problem 12-5. Refer to the appropriate table and compute the present value of:

(a) \$500 due in 18 years at 4% compounded annually.
(b) \$300 due in 11 years at 4% compounded semiannually.
(c) \$400 due in 8 years at 4% compounded quarterly.
(d) \$1,000 due in 3 years at 6% compounded monthly.

Problem 12-6. What is the compound discount in each of the cases in the above problem?

Problem 12-7. Mr. Avery wishes to have \$15,000 at the end of 10 years. How much must he invest today to accomplish this purpose if the interest rate is:

(a) 3½%?
(b) 4%?

Problem 12-8. Refer to the appropriate table and compute the amount of an ordinary annuity of:

(a) 13 rents of \$100 at 3%.
(b) 8 rents of \$850 at 2%.
(c) 24 rents of \$320 at 4%.
(d) 36 rents of \$1,400 at 3%.

Problem 12-9. *C* enters into a contract with *D* on January 1, 1960, whereby he agrees to make 4 payments to *D* of \$1,000 each, beginning December 31, 1960.

What amount will D have accumulated on December 31, 1963, if he is able to invest each $1,000 payment at 4 per cent compounded annually?

Problem 12-10. A corporation borrows $100,000 on January 1, 1960, payable December 31, 1969. What annual contribution, made on December 31 of each of the years 1960 to 1969 inclusive, will produce a sinking fund sufficient to repay the debt, if it is assumed that the sinking fund will earn 6% interest, compounded annually?

Problem 12-11. A lawyer plans to set aside $800 each year, the first payment to be made on June 1, 1960 and the last on June 1, 1965. How much will he have accumulated by June 1, 1965, if the interest rate is:

(a) 3½%?
(b) 2½%?

Prepare an annuity accumulation table to prove each of your answers.

Problem 12-12. Mr. Smith wants to have $150,000 when he retires on his 60th birthday. He asks you to determine how much he must deposit on each birthday from his 53rd to 60th, inclusive, in order to accumulate this amount. Assume an interest rate of:

(a) 1½%.
(b) 2½%.

Prepare an annuity accumulation table to prove each of your answers.

Problem 12-13. Refer to the appropriate table and compute the present value of an ordinary annuity of:

(a) $1,000 for 16 years at 3%.
(b) $1,500 for 9 years at 4%.
(c) $400 quarterly for 8 years at 6% compounded quarterly.
(d) $750 each six months for 12 years at 4% compounded semiannually.

Problem 12-14. Mr. White has $50,000 which he wishes to invest in an annuity on August 1, 1960. If he purchases an annuity of six annual payments, the first to be made on August 1, 1961, how much will he receive in each payment? Submit solutions using each of the following interest rates:

(a) 6%.
(b) 5%.

Prepare an annuity reduction table to prove each of your answers.

Problem 12-15. Mr. Jones borrowed $8,000 from a friend, which he agreed to repay on March 1, 1961. On that date he was unable to pay his friend, so he made the following arrangement with The Easy Loan Company: The Easy Loan Company paid the friend the $8,000 on March 1, 1961, and Mr. Jones agreed to repay the loan in a series of 24 equal monthly payments, such payments being in part interest on the unpaid principal, and in part a payment on the principal. How much must Mr. Jones pay each month if he makes the first payment on April 1, 1961? Assume an interest rate of 6% compounded monthly.

Problem 12-16. Fred Henwood borrows $500 from a small loan company, agreeing to repay the loan in twelve equal monthly installments including interest at 3% per month. The first payment is to be made one month after the date of the loan. What is the monthly payment?

What is the equivalent annual interest rate?

Problem 12-17. Mr. A. B. Comisky has a son and a daughter. He wishes to provide his son with an income of $3,000 per year for five years and his daughter with an income of $3,500 per year for four years. How much must he invest on September 1, 1960 to provide for such payments if the payments are to commence on September 1, 1961? Submit answers using each of the following interest rates:

(a) 3%.
(b) 4%.

Problem 12-18. What is the amount of an annuity due of:

(a) 13 rents of $400 each at 6%?
(b) 9 rents of $25 each at 5%?

Problem 12-19. How much must be invested on April 1 of each of the years 1960 to 1967 inclusive to amount to $150,000 on April 1, 1968? Assume an interest rate of:

(a) 3%.
(b) 5%.

Prepare accumulation tables to prove both of your answers.

Problem 12-20. *X* owes *Y* $5,000 at 6% interest per annum. What equal annual installments must *X* pay to extinguish the debt in 10 payments, if

(a) the first payment is made at the end of one year?
(b) the first payment is made immediately?

Problem 12-21. Barbara bought a horse from James for $600, agreeing to pay for it in 12 equal monthly installments with interest at 6% per year, the first payment to be made immediately. What was the monthly payment?

Problem 12-22. A man deposits $20,000 at 5% interest on January 1, 1961, intending to withdraw six equal amounts at annual intervals. Compute the annual amounts which can be withdrawn if the first withdrawal is made:

(a) January 1, 1961.
(b) December 31, 1961.
(c) December 31, 1963.

Problem 12-23. Compute the present value of:

(a) An annuity of 8 rents of $1,500 each, at 4%, deferred 4 periods.
(b) An annuity of 15 rents of $800 each, at 5%, deferred 8 periods.

Problem 12-24. On July 1, 1961, a company purchased a piece of real estate for $200,000, paying $20,000 immediately and agreeing to pay the balance in eight equal annual payments commencing July 1, 1964. The payments were to include interest at 5% compounded annually. Compute the annual payment.

Problem 12-25. Construct a table of amounts of 1 at 5½% for five periods. Carry the amounts to six decimal places.

Problem 12-26. Construct a table of present values of 1 at 4½% for five periods. Carry the figures to six decimal places.

Problem 12-27. Using the table constructed in your solution to Problem 12-25, construct a table of amounts of an ordinary annuity of 1 at 5½% for five periods.

Problem 12-28. Using the table constructed in your solution to Problem 12-26, construct a table of present values of an ordinary annuity of 1 at $4\frac{1}{2}\%$ for five periods.

Problem 12-29. The amount of 1 at $5\frac{1}{2}\%$ for nine periods is 1.6191. Compute:

(a) The present value of 1 at $5\frac{1}{2}\%$ for nine periods.
(b) The amount of an ordinary annuity of 1 at $5\frac{1}{2}\%$ for nine periods.
(c) The present value of an ordinary annuity of 1 at $5\frac{1}{2}\%$ for nine periods.

Show computations in all cases.

Problem 12-30. The compound interest on 1 for 30 periods at $4\frac{1}{2}\%$ is 2.7453. Using the same interest rate and number of periods, compute:

(a) The amount of 1.
(b) The amount of an ordinary annuity of 1.
(c) The present value of 1.
(d) The present value of an ordinary annuity of 1.

Show computations in all cases.

Problem 12-31. The present value of 1 at $4\frac{1}{2}\%$ for 18 periods is .4528. Compute:

(a) The amount of 1 at $4\frac{1}{2}\%$ for 18 periods.
(b) The present value of an ordinary annuity of 1 at $4\frac{1}{2}\%$ for 18 periods.
(c) The amount of an ordinary annuity of 1 at $4\frac{1}{2}\%$ for 18 periods.

Show computations in all cases.

Problem 12-32. The amount of an ordinary annuity of 1 at $4\frac{1}{2}\%$ for eight periods is 9.3800. Using the same interest rate and number of periods, compute:

(a) The amount of 1.
(b) The present value of 1.
(c) The present value of an ordinary annuity of 1.

Show computations in all cases.

Problem 12-33.

Number of Periods	Amount of 1 at $\frac{2}{3}\%$
1	1.0067
2	1.0134
25	1.1807
30	1.2206

Using the information above, compute the amount of 1 at $\frac{2}{3}\%$ for:

(a) 27 periods.
(b) 58 periods.
(c) 23 periods.

Problem 12-34. Using the tables in the Appendix, compute, at $2\frac{1}{2}\%$:

(a) The amount of 1 for 64 periods.
(b) The present value of 1 for 76 periods.
(c) The amount of an ordinary annuity of 88 rents.
(d) The present value of an ordinary annuity of 52 rents.

SECTION 2—Problems 35 through 46

Problem 12-35. Mr. Jones invests $20,000 on January 1, 1960. Interest is to be accumulated as follows: 2% from January 1, 1960 to January 1, 1965; 3% from January 1, 1965 to January 1, 1970; 4% from January 1, 1970 to January 1, 1980. How much will he have on January 1, 1980?

Problem 12-36. A company owes a debt of $75,000 which bears 5% interest, payable annually, and which it intends to repay in seven annual installments commencing one year hence. These payments are to include principal and interest. The seventh payment is to be $15,000, and the other six annual payments are to be equal in amount. What payment should be made during each of the first six years?

Problem 12-37. Mr. Ford plans to deposit $500 in a fund on December 31 of the years 1960 to 1975 inclusive. Determine how much he will have in the fund on December 31, 1975, if interest rates are as follows:

1960–1964 inclusive	2½%
1965–1968 inclusive	3%
1969–1975 inclusive	3½%

Problem 12-38. A man has the following payments to make:

December 31, 1960 to December 31, 1965 inclusive	$ 5,000 annually
December 31, 1966 to December 31, 1971 inclusive	8,000 annually
December 31, 1972 to December 31, 1976 inclusive	10,000 annually

What is their present value on January 1, 1960 if the interest rate is 4% for the years 1960 through 1971, increasing to 5% for the years 1972 through 1976?

Problem 12-39. On January 1, 1955, *T* Company bought a building for $100,000, agreeing to pay for it in 10 equal annual installments, payments to include accrued interest on the unpaid balance of the debt at 6% and the first payment to be made on the date of the purchase.

On January 1, 1961, the company made its regular payment and deposited in a bank an amount sufficient (with annual interest of 4% allowed by the bank) to liquidate the last three installments as they become due.

Prepare a table showing the periodical reduction of the $100,000 debt. Show also the reduction of the bank deposit by payments of the last installments.

Problem 12-40. *A* agrees to rent *B*'s property for 10 years, at the following annual rentals, payable in advance:

Years 1 and 2	$1,000 per annum
Years 3 through 6	$2,000 per annum
Years 7 through 10	$2,500 per annum

What single immediate sum will pay all of these rents if the payments for the years 1 through 6 are discounted at 4% and the payments for the years 7 through 10 are discounted at 5%?

Problem 12-41. A series of bonds totaling $100,000 is issued, dated January 1, 1960, payable in 10 annual installments of $10,000 each, beginning December 31, 1970. What equal annual sinking fund payment is required to be provided on a 5% basis to pay off the bonds as they mature?

The first annual payment to the sinking fund trustees is to be made December 31, 1960, and the last annual payment is to be made on December 31, 1979.

Problem 12-42. Close Corporation had a lease which was paid up to December 31, 1965. During December of 1959, it entered into negotiations with Rental Company for a renewal of the lease. A lease, covering the years 1966 to 1975 inclusive, was agreed to on the following terms:

Years	Interest Rate	Annual Rental
1966–1970.......	2½%	$10,000
1971–1975.......	2%	$12,500

On January 1, 1960, Close Corporation was to deposit a sum of money with Rental Company which would cover the future rents under the new lease. Rental Company would allow interest on this sum at 3% until December 31, 1965. Thereafter, it would deduct the annual rental in advance and allow interest on the balance at the rates shown in the above table.

How much did Close Corporation have to deposit to provide for the rentals for 1966 through 1975 inclusive?

Problem 12-43. What is the amount of an ordinary annuity of 20 annual rents of $500, with interest at 5% compounded semiannually?

Problem 12-44. What is the present value of an ordinary annuity of 10 annual rents of $150, with interest at 4% compounded semiannually?

Problem 12-45. A father placed $100 in a bank on the day his son was born, and on every birthday thereafter, including the son's 18th birthday. On his 18th birthday, the son withdrew the entire amount in order to go to college. If the savings bank allowed interest at 2½% compounded semiannually, how much did the son withdraw?

Problem 12-46. A loan of $1,000 is repayable in 55 semiannual installments of $30 each and a final payment of $14.43 at the end of the 28th year. These payments include interest at the rate of 4% per annum compounded semiannually.

(a) What is the unpaid principal balance at the end of the 20th year after the 40th semiannual installment?

(b) What amounts of principal and interest, respectively, were contained in the 40th payment?

Assignment Material for Chapter 13

Problems

Problem 13-1. From the following information on the books of Sunset Corporation, prepare depreciation tables, and show computations by the following methods: (a) annuity, using 3%; (b) sinking fund, using 4%.

Cost of asset	$20,000
Estimated life	5 years
Estimated scrap value	$ 4,000

Problem 13-2. Simplex Company bought a machine for $16,350. The freight in was $420 and the installation cost was $1,530. The estimated scrap value was $300 and the estimated life was 15 years. At the end of the second year, accessories costing $780 were added to the machine. They neither prolonged its life nor produced any additional scrap value. State what the depreciation will be for the third year under each of the following methods of computing depreciation:

(a) The annuity method, using a rate of 4%.
(b) The sinking fund method, using 4%.

Problem 13-3. A corporation is depreciating one of its machines by using the annuity method of depreciation. A 4% rate is being used and the estimated scrap value of the machine is $5,000. The depreciation entry for the third year is as follows:

Depreciation expense	3,569.41	
Interest earned		574.02
Accumulated depreciation		2,995.39

Submit the depreciation entries for the remaining useful life of the asset.

Problem 13-4. The depreciation entry covering the first year of an asset's useful life computed by the annuity method is given below. A 5% rate was used, and the asset was believed to have a scrap value of $2,000.

Depreciation expense	1,947.80	
Interest earned		500.00
Accumulated depreciation		1,447.80

Prepare a table showing what the depreciation entries would have been for the above asset if the sinking fund method had been adopted in place of the annuity method.

Problem 13-5. Part (a) and part (b) of this problem each require a solution by two different methods.

(a) Determine the price of a five-year, $10,000 4½% bond, with semiannual coupons, bought to yield 5%. Prepare a table of amortization.

(b) What is the price if the above bond bears interest at 5% and is bought to yield 4%? Set up a table of amortization.

(c) Compute the price, on a 4% basis, of a $10,000 5% bond, due in 30 years, with interest payable annually. This bond may be redeemed at the end of 20 years at 102.

Problem 13-6. Goldsmith Company purchased a 10-year $1,000 bond at the date it was issued at a price to yield a 2% return each six months. The bond

pays interest semiannually. At the end of the fifth year, the following entry was recorded on the books:

Cash	18.75	
Bond investment	1.01	
Interest earned		19.76

(a) What was the carrying value of the bond immediately after the above entry was made?

(b) What price did the company pay for the bond?

Problem 13-7. On September 1, 1959, Avonwood Company purchased \$4,000 par value of the 5% first-mortgage bonds of The United Corporation to yield 4%.

These bonds mature on May 1, 1966, and interest is payable on May 1 and November 1. On July 1, 1962, Avonwood Company sold \$3,000 par value of these bonds for 104 and accrued interest.

Prepare journal entries to record:

(a) All transactions during 1959 and 1960 relating to the bond investment (including closing-date adjustments on the basis of a calendar-year accounting period).

(b) The sale transaction on July 1, 1962.

Problem 13-8. On April 1, 1956, X purchased, ex-coupon, \$50,000 of 5% bonds, interest payable April 1 and October 1. The bonds were bought on a 6% basis.

Compute the amortization of discount for the half-year ending October 1, 1965. The bonds mature on April 1, 1968.

Problem 13-9.

(a) Compute the price of a \$1,000 3¾% bond, having semiannual coupons, purchased on a 4½% basis two years and eight months before maturity.

Given: At 2¼%, present value of an annuity of 1 for:

5 periods	4.67945
6 periods	5.55448

(b) Give the journal entries to record the acquisition and the collection of the first and second coupons.

(c) Prepare a table of amortization.

Problem 13-10. At what price would each of the following bonds be recorded?

(a) A 5% \$1,000 bond, paying interest semiannually, bought to yield 2⅛% each six months, maturing in 10 years but redeemable at 105 at the end of 5 years.

(b) A 3½% \$1,000 bond, paying interest semiannually, bought to yield 2⅛% each six months, maturing in 10 years but redeemable at 110 at the end of 5 years.

Given at 2⅛%:

Present value of 1 for 10 periods	0.81036244
Present value of 1 for 20 periods	0.65668729

Problem 13-11. What should an investor pay, on a 5% basis, for \$10,000 of 4½% bonds due in ten years with an optional redemption in five years at a premium of \$10 per \$1,000 bond? Interest is payable semiannually.

What should he pay for the same bonds on a 4% basis?

Assuming that the bonds are acquired on a 4% basis, present the journal entry for the first tw interest collections.

Problem 13-12. McCracken Dye Company issued at par $150,000 of 5% annuity bonds which were to be retired over eight years. The bonds were issued in $100 denominations with maturities so scheduled that no payment of principal and interest combined during the first seven years would be more than $10 plus the sum which would have paid principal and interest in eight equal installments. The eighth payment on principal and interest therefore would be somewhat larger than an equal annuity payment would have been. Prepare a schedule showing the annual payments on principal and interest.

After the bonds had been issued for six months, they were selling on the market to yield 4%. What was the total market value at that date of those bonds which mature at the end of the second year? Assume that interest is paid annually.

Problem 13-13. Jay Bee Corporation proposes to issue 15-year bonds totaling $300,000 with interest payable annually. Its investment bankers state that, if a mortgage bond with a sinking fund arrangement is issued, the bonds can be sold on a 4% basis, whereas if serial debentures, maturing in equal annual amounts, are issued, the company will have to offer 5%. If a sinking fund is created, it is estimated that it will earn 3½% per annum, compounded annually. The company asks you to determine which arrangement will produce the smaller net cash cost for interest, considering earnings on the sinking fund as a reduction in interest cost.

Problem 13-14. In the course of your examination of the accounts of Orbit Company for the year ended June 30, 1961, you find the following account:

Investment in bonds	$66,916.80

Further investigation discloses that the balance of this account represents the amount paid for $60,000 par value of the 5% debenture bonds of Nebraska Company acquired on February 1, 1958 to yield 4%. These bonds mature on October 1, 1970, and interest is paid on April 1 and October 1. The only entries made by the bookkeeper of Orbit Company in connection with these bonds have been for the receipt of interest each six months, such amounts being credited to Interest Earned.

Prepare the adjusting entry or entries you would make on June 30, 1961. Show all supporting computations. The books have not been closed.

Problem 13-15. On July 1, 1960, Mercator Corporation issued serial bonds with a total par value of $100,000. The bonds are to be retired in annual installments of $20,000, beginning June 30, 1961. Interest is payable annually, and the coupon rate is 3½%. Compute the proceeds if the bonds are issued to yield the investor 4% per annum.

Prepare a schedule of amortization for the bonds, assuming that they are issued on the basis described above.

Problem 13-16. The following entry appeared in the books of a corporation under the date of December 31, 1961, when exactly one-half of the total life of the bond issue had expired:

Interest expense	2,858.57	
Premium on bonds payable	141.43	
Cash		3,000.00
Semiannual interest on 6% bonds due December 31, 1971.		

In the December 31, 1961 balance sheet the bond premium amount was $3,806.81.

Determine the entry made at the time of the issuance of the bonds for cash.

Assignment Material for Chapter 14

Questions

Question 14-1. Briefly distinguish between each of the following:

(a) *Cestui que trust* and life tenant.
(b) Residuary legatee and remainderman.
(c) Devisee and legatee.
(d) Corpus and income.

Question 14-2. The following items do not require apportionment on an accrual basis in estate accounting, but are treated wholly as principal or wholly as income. Which items are to be regarded as principal items and which as income items?

(a) Debts of decedent.
(b) Expenses of last illness.
(c) Proceeds of fire insurance policies.
(d) Commissions paid for collection of income.
(e) Funeral expenses.
(f) Court costs in probating the will, defending it against contests, and interpreting it.
(g) Legal fees in matters pertaining to income as distinguished from the preservation of the estate.
(h) Wages of bookkeepers and workmen employed to care for the property.
(i) Costs of defending the estate against claims rejected by the executor.
(j) Costs of caring for and harvesting crops.
(k) The proceeds of the sale of subscription rights.
(l) Trustee's commissions for collection and disbursement of income.
(m) Ordinary repairs of trust property.
(n) Legal fees incurred in effecting a change of executors or trustees.
(o) Federal estate tax and state inheritance tax.
(p) Interest accrued during the life tenancy on mortgages and other liabilities.
(q) Insurance premiums.
(r) Legal fees and other costs of preserving the principal of the estate.

Question 14-3. Briefly describe the duties of an executor or administrator

Question 14-4. Should special assessments for local improvements be paid out of principal or out of income?

Question 14-5. Are losses or gains on the realization of assets forming a part of the principal applicable to principal or to income?

Question 14-6. *A* is a purchasing and sales agent specializing in imports and exports. *A* dies on January 15. The auditor finds that orders to purchase were received prior to January 15, and purchases were made but the goods were not shipped until after January 15, since no vessel was in port to receive the goods. The business is to be carried on by the executor. How are the orders to be regarded with respect to the distribution between corpus and income of the estate?

Question 14-7. Is it necessary for a fiduciary to use separate bank accounts for principal cash and income cash?

Question 14-8. List four ways in which an executor's accountability for corpus is decreased.

Question 14-9. When are ordinary cash dividends, interest, and rents treated as principal?

Question 14-10. What disposition should be made by a trustee of an amount received by him from the sale of the rights to subscribe to stock? Give reasons for your answer.

Question 14-11. State three rules that have been applied in different states for the classification of extraordinary stock dividends as between principal and income.

Problems

Problem 14-1. C. A. Adamic died on June 1, 1961. His estate contained $10,000 of Atlantic Company 7% bonds due June 1, 1965, inventoried at 106. Interest was payable June 1 and December 1.

By the terms of his will, income from the estate was to be held in trust for his widow; it was further provided that premiums on bonds purchased by the trustee should be amortized in such a way that the corpus would not be impaired.

One year after the death of Adamic, $5,000 more of the same bonds were purchased by the trustee on a 5% basis.

Prepare a statement showing the semiannual income payable to the widow from June 1, 1962, to the maturity of the bonds.

Problem 14-2. Ambrose Kennedy died on November 8, 1960. Prepare entries, in general journal form, for the following transactions involving his estate.

(1) The following inventory was filed with the court:

Cash		$ 4,200
Common stock of Mannheim Corp.—500 shares		8,790
Two sports cars:		
Whizbang 8	$3,000	
Thundercloud 6	2,600	5,600
Household furnishings		2,210
Life insurance policies payable to the estate		15,000

(2) Funeral expenses of $750 were paid.
(3) A certificate for 40 shares of common stock of Blue Petunia Mining Co. was discovered. The stock had a market value of $5 per share on November 8, 1960, and of $4 on January 5, 1961, the date of discovery.
(4) The life insurance policies were collected.
(5) Received annual dividend of $3 per share on the common stock of Mannheim Corp. The dividend was declared subsequent to the date of death.
(6) Proven liabilities of Kennedy were paid, $2,760.
(7) The common stock of Mannheim Corp. was sold for $15 per share.
(8) Paid personal property taxes assessed prior to date of death, $35.
(9) Sold Whizbang 8 for $3,150.

Problem 14-3. On February 1, 1960, Alex Stapleton, executor of the estate of Harold Carney, filed an accounting with the court, after paying all debts, expenses, and special legacies in accordance with the terms of the will.

Cash in the amount of $310,000 remains for division among the residuary legatees.

Following is a statement showing the basis of distribution stipulated by the will and the amounts and dates of advances made to certain of the legatees. Simple interest at 5% per annum is charged on these amounts, which are required by the testament to be included in the estate.

		Advances	
Beneficiary	Share	Amount	Date
Clara Carney	60%	$30,000	November 1, 1958
Thomas Carney	20	—	
Albert Dones	10	3,200	May 1, 1959
Alton Weaver	10	9,000	August 1, 1959

Prepare:

(a) A statement showing the proper division of the remaining funds.
(b) The journal entry on the records of the executor to record the cash distribution to the residuary legatees.

Problem 14-4. A widower left $375,000 to be divided equally among his three children: Jane, 23; Howard, 16; and Robert, 13. The shares of minor children were to be placed in trust until they were 21. The trustee was able to realize 4% annually on his investments. At the beginning of the third year, the trust suffered a $10,000 loss of principal. The maintenance of the two minor children and the fees and charges of the trustee amounted to $7,200 per annum, which may be assumed to be chargeable equally against the income of the two beneficiaries. Sums not used were reinvested, as of the close of the year. At the end of the fourth year, Robert died, and his estate was divided between Jane and Howard. The expenses of settling his estate were $2,720. The expenses of maintenance and the trustee's expenses for the fifth year totaled $4,350. At the end of the fifth year, the trustee terminated the trust and distributed the assets to the beneficiary.

Prepare a schedule showing your computation of the interests of the three children during the five-year period.

Problem 14-5. Maurice Elston died on March 1, 1960, leaving an estate of $700,000. The will provided that the widow was to receive the income from the estate for life, and that upon her death the principal was to be distributed equally among four children.

It was found, upon examination, that there was included in the above amount $80,000 constituting a trust fund established by his previous wife on September 1, 1946, for the benefit of the oldest child, and consisting of $30,000 par value of 4% bonds, interest payable March 1 and September 1, and $50,000 in cash. The interest payment due on September 1, 1946, had been collected before the trust was established, and was included in the $50,000 of trust fund cash. The child had never received anything from the trust.

Prepare a statement showing the portion of the estate on which the widow is entitled to income. Allow 3% simple interest on all cash held by the father as trustee.

Problem 14-6. Stephen B. Palmer died on August 31, 1960. Shortly thereafter the executor of Palmer's estate was confronted with the following problem concerning the abatement of legacies. While the solution would vary from state to state, it is to be solved according to the general rules set forth in the text. Assume that income accrued on specific legacies at date of death attaches to the gift to the legatee.

Palmer's will provided legacies as follows:

To his daughter, Helen, Omega Co. bonds, $30,000 par value.
To his son, Thomas, 2,000 shares of Rho Co. common stock.
To the First Presbyterian Church, $20,000 in cash.
To the Alastair Cancer Fund, $9,000 in cash payable from his savings account.
To his three grandchildren, Mark, Charles, and Thomas, Jr., equal shares in the residue.

The inventory of his estate was:

Cash, general account	$12,300
Cash, savings account	10,245
Rho Co. common stock, 2,000 shares	33,670
Omega Co. bonds, par value $30,000	31,466
Accrued interest thereon	400
Upsilon Co. common stock, par value $5,000	8,989
Other bonds	1,750
Accrued interest thereon	50

Administration of the estate by the executor produced the following results:

Funeral and administration expenses paid	$3,370
Debts of decedent paid	4,600
Other bonds and accrued interest thereon sold for	1,830
Upsilon Co. common stock, par value $5,000, sold for	8,100

Prepare a schedule showing the amounts to be paid to each legatee.

Problem 14-7. In connection with your examination, on June 1, 1960, of the accounts of Theodore E. Walton, administrator of the estate of Mrs. Thelma Adams, who died on March 1, 1960, you discover the following:

(1) $80,000 par value of Allison Co. bonds were included in the inventory at the acquisition cost to the decedent, 103. The market quotation on March 1, 1960, was 99, and the quotation on the date of your examination is 97. These bonds are still held by the estate.

(2) The principal of the estate, as recorded by Walton, included $6,000 of cash received by Mrs. Adams on January 1, 1960, as rent on a business building for the first six months of 1960. The building is part of the estate. You may assume that rents accrue.

(3) The administrator included a dividend of $1,000 received on common stock of Speculative Enterprises, Inc., in income. The dividend was declared and paid during April, 1960. A memorandum accompanying the dividend stated that 40% of the dividend was a return of capital, the balance representing a payment from income.

(4) $30,000 par value of 3% bonds of Geddes Fruit Company, which had been correctly included in the estate inventory at 101, were sold on April 1, 1960, for 98 plus accrued interest. The administrator treated the entire proceeds as a credit to Income. Interest was payable on the bonds on January 1 and July 1.

(5) Walton collected and recorded as income on May 17, 1960, $3,500 which represented the proceeds from the sale of onions grown on a tract of land devised to Philip Adams, brother-in-law of the deceased. A month earlier, Walton had charged against income $800, which was incurred in caring for the onion crop.

Prepare appropriate adjusting entries for the above transactions on the administrator's books as of June 1, 1960.

Problem 14-8. On May 19, 1960, you are engaged by Harvey Lemon, executor for the estate of Robert Smith, who died on January 10, 1960, to assist him in preparing his accounts.

No records have been kept by the executor, with the exception of a list of receipts, which you are given together with bank statements, cancelled checks, and a copy of the inventory filed with the probate court.

Inventory—January 10, 1960

Cash	$ 8,108
Farm	10,000
Q.R.R. Co. bonds	7,500
Accrued interest thereon	*
Arco Mfg. Co. stock	97,200
Investment in Electric Co	6,000
Cattle (4 cows)	800
Accrued interest on mortgage	*
Note; dated August 1, 1951; 6%	5,000
Accrued interest thereon	*
Apex Mining Co. stock	70,000
Dividends receivable thereon	1,000
Manning Corp. stock	51,160
Mortgage receivable	6,000

* You are to supply the correct amounts of interest, which, although they were included in the executor's inventory, have been purposely omitted here.

Investment in Electric Co., together with the three other stock investment accounts, is valued at the January 10, 1960 market price of the number of shares owned as of that date. Subscription rights were issued by Electric Co. in November, 1959, and were still unexercised at the date of death. According to the decedent's broker, who held Smith's rights for safekeeping, the rights were quoted at $2.10 each on January 10, 1960.

The list shows the following receipts:

1960			
January	20	—Dividends on Apex Mining Co. stock declared January 10, 1960	$1,000
February	1	—Note and interest paid	5,150
	10	—Bank account discovered	500
	15	—Cash rent on farm for ensuing year	400
March	1	—Interest for one year on mortgage	300
	10	—Sale of all of Q.R.R. Co. bonds	7,750
		Accrued interest thereon from November 10, 1959, at 4%	125
April	1	—Dividends on Arco Mfg. Co. stock:	
		Cash	400
		Stock—par value	1,000
	15	—Sale of 40 subscription rights on Electric Co. stock; 25 rights are still held	100
	20	—Sale of 4 cows	800
		and 3 month-old calves	60
May	1	—It was finally determined today that the decedent's interest in the net income for the partial fiscal year ended January 10, 1960, of the Smith and Jacobs partnership is $1,750. Until this date, a threatened court test of the partnership agreement precluded even an informed estimate of this figure.	

Show how the above should be recorded by the executor in a suitable cash journal.

Use a general journal only if necessary.

Problem 14-9. Palmer Stevens died on January 1, 1960. On January 12, 1960, Pamela Knight, who was named executrix, filed with the surrogate's court the following inventory:

Stock of *AB* Co.	$62,000
Dividend declared on *AB* Co. stock	800
Bonds—*T* Co.—F.&A., 5%—at par	24,000
Bonds—*X* Co.—J.&D., 4%—at 110	16,500
Accrued interest on *T* Co. and *X* Co. bonds (Amount to be computed by student)	
Notes receivable—noninterest-bearing	2,000
Cash	14,000

On February 4, 1960, the executrix discovered $7,000 par value of bonds of Sanders Mfg. Co.—M.&S., 6%—which had a market value on the date of death of $7,650. The market value on February 4, 1960, was $7,410. Cash collections were as follows:

1960		
Feb.	1—Interest—*T* Co. bonds	?
	3—Dividend on *AB* Co. stock	$ 800
Mar.	1—Interest—Sanders Mfg. Co. bonds	?
May	17—Notes receivable (balance uncollectible)	1,600
June	1—Interest—*X* Co. bonds	?

Cash disbursements were as follows:

1960		
Jan.	29—Physician's bill	$ 350
Feb.	8—Funeral expenses	1,950
Apr.	3—Miscellaneous debts	3,000
June	21—Fees of executrix (including reimbursement for other expenses of estate)	750

All interest collections classified as income were turned over to Betty Stevens on the day received. Also, on June 27, 1960, the executrix sold the *T* Co. bonds for $22,650, including accrued interest, and paid special bequests to Marion Fels—$2,000 and Betty Stevens—$6,000.

Record all of the foregoing facts, including distribution of all cash on hand to Betty Stevens at the conclusion of the above transactions, in the appropriate journals of the executrix.

Problem 14-10. Albert Kraft died on August 16, 1960. A. D. Marshall, executor of Kraft's estate, listed the personal property of the deceased as follows:

Inventory—Filed on September 1, 1960

Cash:	
In checking account	$ 24,860
In savings account	10,021
5,000 shares of Amalgamated Canning Co. second preferred stock, par $100	534,000
Five $1,000 7% Golden Valley Mining Corp. bonds (F.&A.), due February 1, 1975	3,450
Accrued interest thereon	(to be computed)
Claim against Susan Manning	6,000

The various legacies, as stipulated in the will, were as follows:

To Annabelle Kraft, 3,000 shares of Amalgamated Canning Co. second preferred stock.

To Martin Kraft, $1,000 par value of Golden Valley Mining Corp. 7% bonds. (According to the will, Martin Kraft is also to receive (1) all interest accrued or received on $1,000 par value of Golden Valley Mining Corp. bonds, and (2) interest received on the other $4,000 par value of said bonds. It was further stipulated that the executor was to sell the $4,000 par value of said bonds between the 70th and 80th calendar days after date of death.)
To Susan Manning, $10,000 cash.
To Edward Kraft, $10,000 cash from the decedent's savings account.
To Allen Manning, any remaining assets.

On September 7, 1960, Marshall discovered 200 common shares of Northern Keewatin Enterprises, Inc., not previously known to exist, that were worth $1,000 as of the date of death.

On September 8, 1960, Marshall paid funeral expenses of $3,750. Also on that date he sold 2,000 shares of Amalgamated Canning Co. second preferred stock at $98 per share, net.

On September 30, 1960, Marshall paid $210,000 from the checking account in satisfaction of claims against the estate. Thereafter, only one debt of the decedent remained outstanding:

$1,500 to First State Savings and Loan Association, where the savings account is located. This debt arose as a result of a loan made to the decedent two days before death; the savings account was used as collateral. You may assume that the debt is noninterest-bearing.

Marshall sold $4,000 par value of Golden Valley Mining Corp. 7% bonds at 73 plus accrued interest on November 1, 1960. The common shares of Northern Keewatin Enterprises, Inc., were sold for $1,210, net, on November 4, 1960.

On November 11, 1960, Marshall paid executor's fees and miscellaneous charges in connection with the administration of the estate, $2,700.

On November 12, 1960, Marshall engaged you, for a $150 fee, to (1) prepare a schedule showing the manner in which the various kinds of legacies may be satisfied (include a summary of the transactions which have affected the checking and savings accounts), and (2) prepare general journal entries, in chronological order, for the events and transactions presented above.

Problem 14-11. Morton Fay died on March 20, 1960, leaving an estate consisting of the following:

Household goods, $2,500.
5% City of Chicago bonds, J.&J., $10,000.
Cash in bank, $12,345.
Cash in home, $255.
Real estate mortgages, 6% per annum—payable semiannually, collected to November 1, 1959, $15,000.
Horton Steel Co., preferred, 7%, payable on the first day of each calendar quarter, par $20,000, market March 20, 1960, 105.
Real estate, $12,250, net rental $900 annually, payable monthly in advance.
Share of A.B.C. partnership, $50,000.

The will provided that the three executors, who were also the trustees, should receive $1,000 each; the widow, $10,000 cash and household goods; two sons, George and Richard, one-half each of the Horton Steel Co. stock; the residue was to be paid to a trust fund, the income of which was to be paid to the widow quarterly for life and the principal distributed to the sons equally. The will also provided that the income of the estate undistributed at the date of transfer of assets to the trustees should be paid to the trustees, to be added to the trust.

At the time of death there were liabilities in the amount of $4,500.

The executors paid, April 1, 1960, the debts of the decedent and funeral expenses, $875. In addition to the legacies, lawyers' and accountants' fees of $1,250 were paid on October 1, 1960.

Consider that the income was collected on the days due and, with the exception of income on willed property, paid to the widow quarterly beginning June 30.

The executors realized $47,500 as Morton Fay's share of the liquidation of the partnership, September 20, 1960.

All legacies were paid or distributed on October 31.

Write up the journals for the estate.

Problem 14-12. Carter McMahon, executor of the estate of Peabody McQuinn, has presented the following trial balance as part of his report to the probate court and has requested that he be allowed to transfer the assets of the estate to the trustees of the trust which McQuinn's will directs be established.

ESTATE OF PEABODY MCQUINN
CARTER MCMAHON, EXECUTOR
Trial Balance
December 22, 1960

Cash	26,180	
Common stocks—Skipper, Inc	15,200	
—Donna, Ltd	32,470	
Bonds—Deadeye Firearms, Inc	8,750	
Receipts		10,830
Disbursements	10,870	
Estate corpus		82,640
	93,470	93,470

The court has asked you to examine McMahon's records of the transactions of the estate, to ascertain whether proper recognition has been given to the interests of the income and principal beneficiaries. In the course of your examination, you discover the following:

(1) Peabody McQuinn died on May 13, 1960, leaving a will which provided for the creation of a trust, the income from which was to be paid to his widow during her life and, upon her death, the principal of which was to be divided between his two sons.

A general bequest of $4,000 to the American Cancer Society was provided for in the will.

(2) The estate inventory, as recorded by McMahon, included the following assets:

	Inventory Valuation	Market Value May 13, 1960
Cash	$26,220	
Skipper, Inc., common stock, $100 par value—90 shares	15,200	$14,950
Donna, Ltd., common stock, $20 par value—1,000 shares	32,470	31,970
Deadeye Firearms, Inc., 4% bonds—J.&D.—$8,000 par value	8,750	8,900

(3) The executor made no attempt to classify receipts and disbursements as between corpus and income, but has employed the receipts and disbursements accounts shown in the proposed final trial balance to record all

cash received and disbursed. Analysis of these accounts revealed the following information:

Receipts:

Proceeds from the sale, on June 24, 1960, of the winter wheat crop harvested that week on a farm which was devised to the widow—$3,190.

Proceeds from the sale, on August 1, 1960, of $1,000 par value of Deadeye Firearms, Inc., 4% bonds, including accrued interest—$1,280.

Proceeds from sale, on October 18, 1960, of 30 shares of the common stock of Skipper, Inc. (a 3-for-1 stock split was effected on July 15, 1960), $61 per share.

Interest on Deadeye Firearms, Inc., 4% bonds, collected when due.

Dividends on stocks:

Skipper, Inc.—$2 per share declared on April 30, 1960 and $1 per share declared on November 20, 1960.

Donna, Ltd.—$3 per share, declared on July 1, 1960.

Balance of a bank account discovered after the recording of the estate inventory—$810.

Disbursements:

The bequest to the American Cancer Society.

Payments made to widow as income payments—$1,700.

Payment of proven liabilities of deceased—$2,240.

Cost of 50 shares of common stock of Zeta Aircraft Corp., purchased on September 6, 1960, at $8 per share, with taxes and broker's commission of $.60 per share.

Funeral expenses—$1,600.

Executor's fee—$900.

Required:

(a) A schedule of cash receipts and disbursements for the period from May 13, 1960 to December 22, 1960, showing breakdown between corpus and income.

(b) A working paper showing:

(1) The necessary adjusting journal entries on December 22, 1960, to correct the accounts of the estate. Show computations supporting the adjusting entries.

(2) A corrected trial balance of the estate accounts on December 22, 1960.

Problem 14-13. On July 12, 1960, Stuart Gallagher was appointed administrator of the estate of Arnold Maxwell, who died on July 1, 1960.

Following are the events which entered into the administration of Maxwell's estate:

Aug. 1—Gallagher filed an inventory with the probate court as follows:

Cash, in general account	$103,000
ABC Co. common stock, 3,000 shares	38,500
Ordinary cash dividend declared on June 29, 1960	300
DEF Co. 3% bonds, A.&O., par value $50,000, due April 1, 1970	51,000
Accrued interest thereon	(to be computed)

Claim against liquidator of Maxwell & Sullivan, a partnership which was dissolved, owing to Maxwell's death, on July 1, 1960. The books were closed on that date, and the partnership affairs are being wound up. Breakdown of claim:			
Capital investment	$20,000		
Share of earnings	8,600	$28,600	
Furnishings and equipment		4,200	
Automobiles:			
Domestic sedan	$ 3,100		
Domestic sports model	2,800		
Foreign sedan	11,000	16,900	

Note: It is to be assumed that the court has ruled that all bond premiums are to be subject to amortization.

Aug. 2—Paid funeral expenses, $5,900.
Aug. 5—In accordance with a specific provision in the will, the administrator transferred title in the foreign sedan to Brandywine Phelps, a nephew of the deceased.
Aug. 8—Received dividend from *ABC* Co. declared prior to death.
Sept. 1—Acquired $10,000 par value of *XYZ* 4% bonds, M.&N., due May 1, 1967, at $10,520 including brokerage fees of $120 and accrued interest.
Sept. 7—Received $23,200 cash from the liquidator of Maxwell & Sullivan partnership. The payment represented settlement in full of the estate's claim, which had diminished as a result of unanticipated losses on the sale of certain partnership assets.
Sept. 27—Collected $250,000 on a life insurance policy which had not been recorded as an asset of the estate.
Oct. 1—Received semiannual interest from *DEF* Co.
Oct. 5—Distributed $300 cash to Mrs. Arnold Maxwell, the life tenant under a testamentary trust.
Oct. 14—Sold remaining automobiles for $6,400 cash.
Oct. 23—Paid administrative expenses, $1,600.
Oct. 30—Paid all proven liabilities of the decedent, $26,200.
Nov. 1—Received interest on *XYZ* bonds.
Nov. 4—Paid a general legacy of $10,000 to Aldrich Maxwell, the decedent's only child.
Dec. 1—Mrs. Arnold Maxwell died. According to her husband's will, the principal of his estate is to be vested in Aldrich Maxwell on the date of Mrs. Maxwell's death. The undistributed income is distributable to Mrs. Maxwell's estate.

Required:

(a) Journal entries for the above events and transactions, through November 4, 1960.
(b) Journal entries for any needed adjustments on December 1, 1960.
(c) A determination of the liability of the estate of Arnold Maxwell to the estate of Mrs. Arnold Maxwell.

Assignment Material for Chapter 15

Questions

Question 15-1. Name the various classes of items that might appear in a charge and discharge statement as to principal.

Name the various classes of items that might appear in a charge and discharge statement as to income.

Question 15-2. Prepare hypothetical journal entries to close the books of an executor of an estate which contained both principal and income items. Use your own figures, and assume that all of the assets have been distributed to the beneficiaries.

Question 15-3. What is the proper procedure for closing the executor's books if assets are still on hand and are to be transferred to a trustee?

Question 15-4. What is the difference between an executor's intermediate and final accounting?

Question 15-5. Is it possible for income accounts to be credited in the opening entry on the books of a trustee? Would the answer be the same for the books of an executor? Explain fully.

Question 15-6. Discuss whether there are any basic differences between the concepts of conventional accounting and fiduciary accounting with respect to income determination.

Question 15-7. Describe the nature of the following accounts found in the books of a trustee: Trust Principal; A. B. White—Income Beneficiary; Increases Recognized at Distribution.

Question 15-8. Under what circumstances would it be permissible accounting procedure to render only one charge and discharge statement instead of two?

Problems

Problem 15-1. The estate of William Van Duzen, who died on February 4, 1960, comprised the following assets:

Cash	$ 12,135
Government bonds	145,385
Other bonds	224,180
Accrued interest	3,240

His will provided that one-half of his net estate should be placed in trust for the benefit of his widow during her life, and upon her death should be divided equally among his three children: Alice, Ruth, and Edward. The other half was to be divided as follows: $5,000 to Emerson University, $5,000 to the Union Church, and the remainder in equal shares to his three children. He directed his executor, Wallace B. Coffman, to deduct any advances to any of his children plus simple interest at 5% from the date of the advance. (Compute exact interest on the basis of 365 days per year.)

The executor ascertained that the following advances had been made:

Alice	$12,000, January 1, 1947
Edward	$30,000, April 10, 1954

Estate taxes totaled $79,215. The executor's fee was $10,000. Funeral and administrative expenses, other than above, were $2,254. Debts of the decedent amounted to $442. Bonds included in "Other bonds," which were carried at $48,400, were sold for $48,650 to provide funds to pay the charges. The accrued interest was collected.

Prepare a charge and discharge statement as to principal for the period ended November 12, 1960, the date of closing the estate.

Problem 15-2. Allison Cartwright died on May 5, 1960. His will, which appointed Frank Harris as executor, provided that three-fifths of his estate should go to his widow, Priscilla, and two-fifths to his son, Matthew.

The will further provided that advances to his son in the total amount of $18,000 were to be regarded as part of the estate, but that, if the advances made to him exceeded his two-fifths of the estate, no collection was to be required of him.

Harris's inventory consisted of cash, $3,120; common stocks, $20,410; and bonds, $7,840.

Debts of the decedent were $3,844. Funeral and administration expenses were $1,408. Certain common stocks were sold for $4,905, resulting in a loss of $466. Harris distributed the assets and made his final accounting to the court on January 15, 1961.

Compute the amount due, if any, to each legatee, and prepare the charge and discharge statement as to principal, showing any amounts distributed to the legatees separately. You may omit supporting schedules.

Problem 15-3. Prepare statements of charge and discharge, together with suitable supporting schedules, for the executor of the estate of Anthony Glembin (widower), who died October 12, 1960, leaving the following:

Life insurance	$ 10,000
Household effects, appraised	1,250
Real estate, appraised	35,000
Bank account	8,500
Investments, market value	70,250
Total	$125,000

The executor, Paul Kennedy, paid current debts at time of death, $1,800; funeral expenses, $750; legal fees and estate taxes, $8,350.

The securities were sold for $72,500; household effects netted $1,500.

Special bequests (tax free) were $2,500.

The residue was to be divided equally among three sons: Anthony Jr., Albert, and Allen, who were required to consider as part of their shares, without interest, advances made to them at various times, to wit: $16,500, $12,250, and $7,500, respectively. Any one of the sons was given the option of taking the real estate at a valuation of $37,500; the option was taken by Albert.

The estate was closed on February 15, 1961.

Problem 15-4. James S. Overman was appointed executor of the estate of Phillip Curry, who died on March 20, 1960. On December 27, 1960, Overman completed his executorship and turned the assets over to the trustee. From the trial balance on the following page,

(1) Prepare the charge and discharge statements.
(2) Make the journal entries to close the executor's books and to transfer the assets to the trustee. Ignore accrued interest.

Trial Balance—December 27, 1960

Estate corpus		162,420
Assets subsequently discovered		3,415
Indiana Water Co. 3½% bonds, F.&A.	12,100	
Illinois Traction 4% bonds, M.&S.	9,200	
Mall Mortgage Co. 5% bonds, A.&O.	8,100	
Boulder Development Company common stock	72,148	
Colorado Trading Corporation preferred stock	32,465	
S and S Company common stock	5,120	
Loss on realization	3,716	
Gain on realization		2,840
Funeral and administration expense	2,314	
Debts of decedent paid	1,776	
Legacies	10,000	
Income		7,320
Expense—income	1,120	
Distributions to income beneficiaries	5,000	
Cash—principal	11,736	
Cash—income	1,200	
	175,995	175,995

Problem 15-5. The charge and discharge statements below were prepared by Alexander Cooper, administrator for the estate of Frederick Carson.

ESTATE OF FREDERICK CARSON
ALEXANDER COOPER, ADMINISTRATOR
Charge and Discharge Statements as to Principal and Income
February 9, 1960 to November 20, 1960

	Principal	Income
I Charge Myself With:		
Assets per inventory	$96,228	
Assets subsequently discovered	1,310	
Gain on realization	471	
Income		$6,182
Total charges	$98,009	$6,182
I Credit Myself With:		
Funeral and administration expense	$ 2,002	
Loss on realization	697	
Legacies delivered	10,400	
Debts of decedent paid	2,000	
Expenses chargeable to income		$1,915
Distributions to income beneficiaries		3,500
Total credits	$15,099	$5,415
Balances	$82,910	$ 767
Consisting of:		
Cash	$ 5,310	$ 647
Port Welch Co. common stock	50,100	
Douglas County bonds	27,500	
Accrued interest receivable		120
Total	$82,910	$ 767

From the information contained in the above statements, prepare:

(a) The administrator's trial balance on November 20, 1960.
(b) Journal entries to close the administrator's books, assuming that the court has ordered such an interim closing.

Problem 15-6. A. B. Jones died April 15, 1959, leaving one-half of the property to his wife outright, the balance to be held in trust, the income of which was to go to his wife during her lifetime, and the principal at her death to go to Technology Tech. The will named William Baird as executor.

The estate was appraised as follows:

1,000 shares Rail Company	$160,000
1,000 shares General Space Company	166,000
2,000 shares Penn Company—par $50	123,000
4,000 shares United Boat, common, par $25	196,000
Deposits in banks	20,200
Money in the house	800
	$666,000

Dividends had been declared prior to April 15, 1959, as follows:

Rail Company	2%
General Space Company	2%
United Boat	2%

From April 15, 1959 to April 15, 1960, the cash receipts were:

Rail Company—4 dividends	$ 8,000
General Space Company—4 dividends	8,000
Penn Company—4 dividends	6,000
United Boat—4 dividends	8,000
Interest on bank balances	300
	$30,300

The cash disbursements were:

Debts of decedent	$ 4,500
Expenses of funeral	1,500
Income to widow	20,000
Executor's commission on principal	16,800
Executor's commission on income	1,215

The executor paid the widow the balance of income on April 15, 1960, and distributed the principal in equal shares, at the appraised values, between the widow and the trustees.

Prepare (a) charge and discharge statement as to principal; (b) charge and discharge statement as to income; (c) executor's cash account; and (d) opening entry on the trustees' books, in general journal form.

Problem 15-7. Using the data of Problem 14-12, prepare charge and discharge statements, together with supporting schedules.

Problem 15-8. Merlin P. Hallin died on January 1, 1960, leaving an estate consisting of:

Preferred stocks	$ 15,000
Life insurance	41,350
Real estate	245,000
Sundry accounts receivable	900
5% bonds—J.&J.; par value, $70,000	63,000
6% bonds—M.&S.; par value, $75,000	82,000

None of the income due on January 1, 1960, had been collected by Hallin. The executors collected the insurance and accounts receivable. Disbursements

were made as follows: bequests, \$22,000; funeral expenses, \$1,100; and sundry claims, \$11,150.

The will provided that the bonds, stocks, and real estate were to be held in trust (the executors were also named as trustees), and that 50% of the income should be distributed to the widow, that 25% should go to the older son, and that the younger son should receive \$250 per month, with the remainder of his 25% of the income held by the same trustees in a separate trust to be paid to him upon the attainment of his majority. The principal assets not transferred to the trust were payable to the widow.

On June 30, 1960, the executors closed the estate and distributed the assets in accordance with the terms of the will. Income collected by them prior to that date was immediately transferred to themselves as trustees. Distributions of income cash were made on June 30 and December 31.

Assume that the preferred stocks paid dividends of \$600 on August 25, and that the real estate was rented for \$15,000 per year, payable in equal quarterly amounts in advance.

Prepare statements for 1960 for the executors, for the trustees of the general trust fund, and for the trustees of the fund for the minor son. Include reports of cash receipts and disbursements.

Problem 15-9. John Gibbon died January 1, 1956, and left his property in trust to his daughter, Ethel. The income was to be paid to her as long as she lived and at her death the trust was to go to his nephew, William Gibbon. He appointed John Doe trustee at a fixed fee of \$5,000 per annum. All expenses of settling the estate were paid and accounted for by the executor before the trustee took it over.

Ethel died on September 30, 1959, and left all her property in trust to her cousin, Joseph Hart. John Doe was appointed executor and trustee of her estate, and he agreed not to make any additional charges for these services. All income was to be paid to Joseph Hart. The estate, which consisted solely of Ethel's unexpended income from the John Gibbon trust, was immediately invested in 4% certificates of deposit.

The property received under the will of John Gibbon on January 1, 1956, was:

10,000 shares of K.O. Corporation, valued at \$100 each.
\$300,000 bonds of K.O. Corporation, paying interest on June 30 and December 31 at 6% per annum.

In the five years ended December 31, 1960, the trustee received the following dividends on the stock:

February 1, 1956	\$35,000
February 1, 1957	50,000
February 1, 1958	30,000
February 1, 1959	65,000
February 1, 1960	60,000

During each of the five years, Doe made disbursements for expenses, \$1,200, and his fees.

Ethel Gibbon, as beneficiary, received \$25,000 in each of the years 1956, 1957, and 1958. In 1959, she received \$49,250 from the trust.

William Gibbon received \$15,100 in 1959 and \$47,900 in 1960.

Joseph Hart collected \$3,000 in 1960.

Undisbursed cash was left on deposit in the bank and drew no interest.

Prepare trustee's charge and discharge statements covering the five years ended December 31, 1960, showing the beneficiaries' interests.

Problem 15-10. A. Thompson, the executor, filed the following inventory with the probate court in connection with the estate of Samuel Gifford, who died on July 18, 1960.

Inventory of Assets
As of August 15, 1960

Real estate, as valued by court appraiser	$ 38,750.00
Home furnishings	6,824.00
AB Company preferred stock	22,865.00
AB Company common stock	3,738.20
Stopgap Electric, Inc., common stock, at nominal value	100.00
Local City Bonds, dated April 1, 1960, due April 1, 1970, in the par amount of $50,000; 3%	37,500.00
Accrued interest on Local City Bonds	437.50
Cash in First National Bank	4,533.12
Cash in closed bank	1,939.25
	$116,687.07

On October 4, 1960, the executor learned of another checking account, in the Second National Bank, with a balance of $2,500. During the same week, discovery was made of $125.50 cash in the office safe. A $1,250 dividend, declared on June 1, 1960, was collected on the *AB* Company preferred stock. Also collected was $58,000 of insurance.

The executor sold (a) one-half of the *AB* Company preferred stock for $13,500 and (b) the Stopgap Electric, Inc., common stock for $200. Both sales were made on June 15, 1961.

Other receipts during the executor's administration consisted of rents, $4,526; dividends, including those declared before death, $4,025; and collection on the deposit in a closed bank, $465. All receipts were deposited promptly by the executor in the First National Bank.

Accrued at the date of death were household expenses, $2,111, and property taxes, $1,575.20. Expenditures were for bequests, $20,000; executor's fee, $1,000; property taxes, including those accrued at date of death, $3,336.95; funeral expenses, $750; estate tax, $18,262.50; court costs, $88.50; and the household debts. The widow received allowances totaling $4,800, as ordered by the court.

The above events and transactions occurred during the several months ended June 30, 1961. Anticipating no further expenses or liabilities applicable to the estate, the executor proposes to ask the court for his discharge in order that the remaining assets of the estate can be turned over to the trustee designated by the will. Owing to a legal technicality, Local City has been unable to make any interest payments on its bonds. The executor has reason to believe that this technicality will be cleared in the near future and expects the trustee to receive all past-due interest.

Prepare charge and discharge statements to June 30, 1961, with supporting schedules.

Problem 15-11. You are visited during the morning of December 31, 1960 by Mrs. Yolande Zeno, executrix and sole beneficiary of the estate of her deceased husband, X. Y. Zeno. She submits the statements on the following page.

ESTATE OF X. Y. ZENO
Trial Balance
December 30, 1960

Cash	2,850.00	
The Xenophon Corporation stock—4,375 shares	28,000.00	
N. Y. Central Airways stock—120 shares	4,800.00	
Offenbach Company stock—2,000 shares	32,000.00	
U. S. treasury notes—$56,000 face value	56,000.00	
Allowed claims—including interest accrued to December 31, 1960:		
First National Bank—loans to testator		48,000.00
County treasurer—taxes		4,000.00
Yolande Zeno—loans to testator		300,000.00
Theophilus Zeno—loans to testator		24,000.00
The Xenophon Corporation—loans to testator		96,000.00
The Xenophon Corporation—funds advanced for funeral expenses		6,000.00
William Jones—merchandise sold to testator		12,000.00
Smith & Brown—services as counsel to executrix		54,000.00
Deficiency	420,350.00	
	544,000.00	544,000.00

THE XENOPHON CORPORATION
Trial Balance
December 30, 1960

Cash	2,750.00	
Axelrod, Inc., stock—3,600 shares	85,394.73	
Claims against estate of X. Y. Zeno	102,000.00	
Capital stock—5,000 shares		100,000.00
Retained earnings		89,794.73
Accounts payable—Smith & Brown		350.00
	190,144.73	190,144.73

Mrs. Zeno is the president of The Xenophon Corporation and the owner of 625 shares of its stock, and states that during the morning the following transactions took place:

First: The court administering the estate ordered her:

(1) To accept certain offers, namely: $2,400 for 120 shares of N. Y. Central Airways, $123,650 for 2,000 shares of Offenbach Company, $56,400 for $56,000 face value treasury notes, and to deliver these securities for cash;

(2) To pay in full the indebtedness to The Xenophon Corporation, the attorneys' fees, and the tax claims against the estate;

(3) To submit to the court at its next session a charge and discharge statement, showing also the payments to be made to the other creditors of the estate and reserving an amount sufficient to pay 12½% gains tax in the event that the court finds the estate liable therefor despite its insolvency.

Second: The Xenophon Corporation sold its 3,600 shares of Axelrod, Inc., stock for $8,000 cash and, pursuant to appropriate resolution of its stockholders and directors, paid its debts and credited its shareholders with their proportion of the stockholders' equity.

Mrs. Zeno states that she has complied with the first two requirements of the court order, and asks your assistance with the third. You may assume that the only tax provision necessary is 12½% of the net gain from realization of the assets listed in the trial balance.

Prepare the required charge and discharge statement, together with the work sheets showing the position of the estate after complying with the court orders, and the position of The Xenophon Corporation after crediting the shareholders with their proportion of the stockholders' equity.

Problem 15-12. Frank Healy died on May 15, 1959, leaving a will in which he instructed his executor to:

(1) Use his best judgment in the disposition of such assets as may be necessary to liquidate all his liabilities.
(2) Pay his widow, Martha, an allowance out of income at the rate of $1,250 per month, from the date of his death to the date of the distribution of the residue of his estate.
(3) Distribute the residue of his estate, after all claims and legacies have been met, as follows: one-half to his widow, and one-half to certain trustees named in the will.

The executor drew up the following inventory of the estate, at appraised values:

Real estate	$260,000
Corporation stock	340,000
Bonds	390,510
Loans	25,650
Land contracts	60,500
Cash	45,000
Accrued interest receivable	5,810

From the date of death to October 15, 1960, the cash receipts were:

80 bonds, par $1,000, inventoried at 105, sold at 102¾.
500 shares of stock, par $100, inventoried at 60, sold at 80.
400 shares of stock, par $50, inventoried at 70, sold at 86½.
Real estate, inventoried at $45,000, and encumbered by a mortgage of $30,000, sold by consent of the probate court and the widow for a sum $25,000 in excess of the mortgage, the purchaser assuming the mortgage.
Dividends, $19,000.
Interest, $27,900.
Net rental income, $20,650.
Loans, $18,465.

Cash disbursements were:

Bills payable, $130,000.
Accounts payable, $1,200.
Funeral expenses, $1,800.
Interest (of which $1,200 was accrued at death), $5,750.
Office expense ($4,000 against principal), $7,000.
Executor's fee ($10,000 against principal), $12,500.
Legacies, $50,000.
Payments to widow out of income, $22,500.

The accrued interest income on October 15, 1960, totals $3,150.

Prepare journal entries recording the foregoing facts, the closing of the books, and the distribution of the estate on October 15, 1960.

Prepare statements for submission to the court.

Assignment Material for Chapter 16

Questions

Question 16-1. Discuss the theoretical distinction between an agency and a branch in respect to the following particulars:

(a) Amount of stock carried.
(b) Shipments of merchandise.
(c) Passing of credits.
(d) Billing of merchandise and handling of accounts receivable.
(e) Cash and cash records.

Question 16-2. Why is it sometimes considered desirable to bill merchandise to a branch at a figure above cost? Will such a practice have any effect on the reported earnings of the business?

Question 16-3. The Branch Current account on the home office books, and the Home Office Current account on the branch books, are supposed to be reciprocal, but in actual practice this condition rarely exists. Explain why a lack of agreement may exist.

Question 16-4. Describe the closing procedure for expense accounts appearing in the home office books although applicable to a branch.

Question 16-5. Develop an illustration to show the proper handling of freight charges on interbranch transfers of merchandise.

Question 16-6. Assume that the branch fixed assets are carried on the home office books. How will fixed asset purchases by the home office for the branch be recorded, and how will fixed asset purchases by the branch be recorded?

If fixed assets at the branch are carried on the branch books, how will purchases be recorded?

Question 16-7. Describe the statement location of the account "loading in branch inventory" if (a) statements are being prepared from the home office books alone; (b) combined statements are being prepared for the home office and branch.

Question 16-8. Assume that a branch finds that certain goods received from its home office are unsalable for local reasons and returns the goods to the home office. What accounting treatment would you recommend for the freight charges on such merchandise?

Question 16-9. A firm having several branches maintains an account in its ledger with each branch, and charges to such accounts all goods sent to the branches for stock. At the end of the year, the balance of each branch account is treated as an ordinary account receivable, and is included in the balance sheet with the general debts owing to the firm. If you see any objection to this method, state it, and state also how you would deal with the accounts.

Question 16-10. Explain the purpose of the following entry:

Cash in transit	500	
Branch current		500

Illustrate one other such entry.

Problems

Problem 16-1. Blanket Company operates a number of sales agencies throughout the United States to provide for nationwide distribution of its products.

The company maintains its records so as to state separately the operating results of each agency.

Prepare journal entries to record the following 1961 transactions (including adjusting and closing entries on December 31, 1961) on the books of Blanket Company.

(1) Merchandise was sent to a newly opened agency in Anchorage, Alaska. The merchandise cost the company $850 and was to be used by the agency as samples.
(2) Cash in the amount of $500 was sent to the new agency to establish a working fund for the payment of agency expenses.
(3) The company received sales orders amounting to $7,850 from the agency. The merchandise ordered, which cost $5,905, was shipped from the central warehouse of the company.
(4) The following 1961 expenses, recorded on the home office books as company expenses, were applicable to the new agency:

Advertising	$575
Office expense (for accounting services)	310

Use one controlling account for agency expenses.

(5) An expense report, covering the year 1961, was received from the agency. It reported the following transactions:

Disbursements from imprest fund, not yet reimbursed, for branch expenses	$460
Use of samples for demonstration purposes	355

Problem 16-2. Remote Company has operated a branch for one year. Shipments are billed to the branch at cost. The branch carries its own accounts receivable, makes its own collections, and pays its own expenses. The transactions for the year are given effect to in the trial balances below.

REMOTE COMPANY
Home Office Trial Balance
December 31, 1961

Cash	7,500	
Accounts receivable	30,180	
Inventory—December 31, 1960	12,620	
Accounts payable		13,240
Furniture and fixtures—net	25,000	
Capital stock		75,000
Retained earnings		6,510
Purchases	141,000	
Expenses	10,900	
Sales		82,270
Shipments to branch		67,680
Branch current	17,500	
	244,700	244,700

The home office inventory on December 31, 1961, was $20,140.

REMOTE COMPANY
Branch Trial Balance
December 31, 1961

Cash	4,200	
Home office current		17,500
Shipments from home office	67,680	
Accounts receivable	12,800	
Expenses	6,820	
Sales		74,000
	91,500	91,500

The branch reported an inventory on December 31, 1961, of $9,180.

Required:

(a) Branch closing entries.
(b) Home office adjusting (relative to branch) and closing entries.
(c) A working paper combining the home office and the branch accounts.

Problem 16-3. Using the following data, prepare combined working papers and give the closing entries that would appear on the home office books, including the entry to pick up the net income or loss of the branch for its first year of operations.

COMPANY Z
Home Office and Branch
Trial Balance
June 30, 1961

	Home Office		Branch	
Cash	9,400		2,250	
Accounts receivable	8,700		2,400	
Inventory—June 30, 1960	9,000		—	
Branch current	6,000			
Shipments to branch—Loading		3,000		
Fixed assets—net	20,000			
Accounts payable		4,200		1,050
Home office current				6,000
Capital stock		30,000		
Retained earnings		13,500		
Dividends	1,500			
Sales		54,000		21,000
Purchases	57,000		1,800	
Shipments from home office			18,000	
Shipments to branch		15,000		
Expenses	8,100		3,600	
	119,700	119,700	28,050	28,050
Inventory—June 30, 1961	15,000		2,000*	

* The inventory consists of the following portions:
90% acquired from the home office;
10% acquired from outside sources.

Problem 16-4. Deviso Company has for one year operated a branch. Shipments to the branch are billed at an arbitrary price. The branch carries its own accounts receivable, makes its own collections, and pays its own expenses. The transactions for the year 1961 are summarized on the following page.

Shipments to branch	$84,000
Branch sales on account	79,600
Collections on account—Branch	76,500
Expenses paid—Branch	3,200
Cash sent to home office	72,000

The branch inventory on December 31, 1961, is $16,800.

The home office trial balance on December 31 is:

Inventory	8,000	
Capital stock		60,000
Purchases	158,000	
Sales		110,000
Expenses	9,000	
Accounts receivable	39,000	
Cash	37,000	
Accounts payable		5,000
Shipments to branch—Cost		70,000
Shipments to branch—Loading		14,000
Branch current account	14,000	
Retained earnings		6,000
	265,000	265,000

The home office inventory on December 31, 1961, is $7,500.

Prepare:

(a) Journal entries (without explanations) in parallel columns, for the transactions of the branch for the year, as they would be recorded on the branch and the home office books. Include any necessary adjusting entries.
(b) Branch closing entries.
(c) Home office closing entries.

Problem 16-5. In making the annual audit of Maxon Stores, the auditor attempted to reconcile reciprocal accounts with the following balances:

Home office:	
Darby Branch Current	$57,620 Dr.
Riverside Branch Current	27,120 Dr.
Darby branch:	
Home Office Current	55,520 Cr.
Riverside Branch Current	2,080 Dr.
Riverside branch:	
Home Office Current	22,220 Cr.
Darby Branch Current	4,600 Dr.

He ascertained the following facts:

Merchandise was billed to the branches at 10% above cost.

A bank draft of $4,600 sent by the Darby branch to the home office was in transit.

The home office had charged advertising to the branches as follows: Darby, $4,300; Riverside, $3,200. Neither branch recorded these charges.

Merchandise which cost $5,000 was in transit from the home office to the Riverside branch.

At the direction of the home office, the Riverside branch had billed merchandise to the Darby branch at $4,600, which included the freight from

the home office to Riverside. After the Darby branch had paid the freight from Riverside, the merchandise cost $100 more than it would have cost if shipped from the home office. The Darby branch billed this $100 back to the Riverside branch, but that branch has never recognized the claim. The home office instructs the Riverside branch to accept the charge and rebill it to the home office, which will charge it to an expense account.

Both branches have credited their book net income to the home office: Darby at $6,800 and Riverside at $5,200; these amounts have not been taken up by the home office.

Merchandise billed at $6,580 is in transit from the Darby branch to the Riverside branch, at the direction of the home office.

Cash is in transit from the Riverside branch to the home office in the amount of $1,400.

Show how the reconciliations were made.

Problem 16-6. Simplex Company sells its product directly and also through a branch opened at the beginning of the year. Condensed summaries of the company's financial statements for the current year are presented below.

Sales	$284,000
Cost of goods sold	198,800
Gross profit	$ 85,200
Expenses	57,650
Net income	$ 27,550

Cash	$ 16,000	Accounts payable		$ 21,000
Accounts receivable	38,000			
Inventory	23,000	Capital stock	$75,000	
Fixed assets	41,000	Retained earnings	22,000	97,000
	$118,000			$118,000

The account with the branch was treated as an ordinary account receivable. For example, shipments to the branch, billed at selling price, which is 20% above cost, were charged to Accounts Receivable and credited to Sales. When the branch made a sale, a duplicate sales invoice was forwarded to the home office, which took up the receivable on its own books, giving the branch credit for it, and then made the collection itself. A petty cash fund of $500 was kept at the branch, and its closing inventory was $19,200. No other assets or liabilities were kept on the branch books.

Prepare working papers to correct the company's statements.

Problem 16-7. Repulse Company of Tucson operates a branch in Phoenix. The following trial balances were taken from the branch records:

	December 31,			
	1961		1962	
	(After Closing)		(Before Closing)	
Home office current		9,000		11,500
Inventory	4,950		4,950	
Shipments from home office			44,000	
Sales				47,500
Sales allowances			750	
Accounts receivable	3,000		4,750	
Cash	1,050		2,050	
Expenses			2,500	
	9,000	9,000	59,000	59,000

All sales were made on account. The branch makes its own disbursements for expenses. The branch inventory on December 31, 1962, was $5,500.

The home office trial balance on December 31, 1962, was as follows:

REPULSE COMPANY
Trial Balance
December 31, 1962

Inventory	12,500	
Accounts receivable	1,300	
Cash	8,900	
Branch current	12,600	
Loading in branch inventory		450
Purchases	90,000	
Sales		60,000
Sales allowances	1,100	
Shipments to branch—Cost		41,000
Shipments to branch—Loading		4,100
Expenses	6,250	
Accounts payable		2,750
Capital stock		20,000
Retained earnings		4,350
	132,650	132,650

Inventory, December 31, 1962, $13,750.

From the foregoing data prepare:

(a) Summary journal entries in parallel columns recording on the branch books and the home office books the transactions of the branch (including those with the home office). Include any necessary adjusting entries.
(b) Journal entries on the home office books to take up the branch net income or loss and to adjust it for the price loading.
(c) Combined working papers.

Problem 16-8. The Jackson branch of Clinton Company has submitted the following condensed income statement and summary of its Home Office Current account.

JACKSON BRANCH
Condensed Income Statement
For the Year Ended December 31, 1961

Sales		$65,000
Cost of sales:		
Inventory—December 31, 1960—at billed prices	$ 8,195	
Shipments from home office	46,640	
Total	$54,835	
Deduct inventory—December 31, 1961—at billed prices	6,952	47,883
Gross profit		$17,117
Expenses		13,130
Net income		$ 3,987

Summary of Home Office Current Account

Balance—December 31, 1960		$ 8,120
Credits:		
Shipments from home office	$46,640	
Reimbursement of branch working fund for expenses	11,400	
Net income	3,987	62,027
Total		$70,147
Debits:		
Advertising paid by branch—allocated to home office	$ 330	
Cash remitted to home office	62,000	62,330
Balance—December 31, 1961		$ 7,817

The home office trial balance is presented below.

CLINTON COMPANY
Trial Balance
December 31, 1961

Cash	2,000	
Accounts receivable	7,400	
Inventory—December 31, 1960—at cost	17,220	
Branch current	3,907	
Loading in branch inventory		745
Fixed assets	40,000	
Accounts payable		3,000
Capital stock		50,000
Retained earnings		8,982
Sales		150,000
Purchases	146,000	
Shipments to branch—Cost		42,400
Expenses	38,600	
	255,127	255,127
Inventory—December 31, 1961—at cost	$18,125	

Required:

(a) A reconciliation of the reciprocal current accounts. You may assume that the current accounts were in agreement as of December 31, 1960.
(b) A combined income statement.

Problem 16-9. The account balances shown below were taken from the trial balances submitted to Technic Company by its branch at Riverdale.

	July 31,	
	1960	1961
Petty cash fund	1,500	1,500
Sales	176,330	198,720
Sales returns and allowances	3,150	3,600
Accounts written off as uncollectible	1,220	1,920
Shipments from home office—at 140% of cost	107,450	136,080
Accounts receivable	43,800	49,140
Inventory—July 31—at billed prices	37,170	41,370
Expenses	51,260	57,930

All cash collected by the branch is remitted to the home office. All branch expenses are paid out of the petty cash fund. When the branch receives a petty cash reimbursement check, it charges one or more expense accounts and credits Home Office Current.

Internal audit reports show that the petty cash fund was counted each July 31, and that its composition was as follows:

July 31, 1960:	
Coin and currency	$580
Unreimbursed expense vouchers	920
July 31, 1961:	
Coin and currency	$860
Unreimbursed expense vouchers	640

The home office neglected to allow on its books for the price loading in the July 31, 1960 branch inventory.

Required:

(a) A summary of the Branch Current account as it appeared in the home office books for the year ended July 31, 1961.

(b) A schedule showing the corrected net income of the branch for the year ended July 31, 1961.

Problem 16-10. You are engaged to audit the records of Swivel Company, which have not previously been audited. The trial balance as of December 31, 1961 follows:

SWIVEL COMPANY
Trial Balance
December 31, 1961

Debits	Home Office	Branch
Cash	15,000	2,000
Accounts receivable	20,000	17,000
Inventory—December 31, 1961	30,000	8,000
Branch current	44,000	
Fixed assets—net	150,000	
Cost of sales	220,000	93,000
Expenses	70,000	41,000
	549,000	161,000
Credits		
Accounts payable	23,000	
Mortgage payable	50,000	
Home office current		9,000
Capital stock	100,000	
Retained earnings—December 31, 1960	26,000	
Sales	350,000	150,000
Accrued expenses		2,000
	549,000	161,000

The following additional information is to be considered:

(1) The branch receives all of its merchandise from the home office. The home office bills goods to the branch at 125% of cost. During 1961 the branch was billed for $105,000 on shipments from the home office.

(2) The home office credits Sales for the selling price of goods shipped to the branch. The goods shipped to the branch are not returnable unless so ordered by the home office.

(3) On December 31, 1960, the inventory of the home office was $25,000. The branch books showed a $6,000 inventory.

(4) The home office billed the branch for $12,000 on December 31, 1961, representing the branch's share of expenses paid at the home office. The branch has not recorded this billing.

(5) All cash collections made by the branch are deposited in a local bank to the account of the home office. Deposits of this nature included the following:

Amount	Date Deposited By Branch	Date Recorded by Home Office
$5,000	December 28, 1961	December 31, 1961
3,000	December 30, 1961	January 2, 1962
7,000	December 31, 1961	January 3, 1962
2,000	January 2, 1962	January 5, 1962

(6) Expenses incurred locally by the branch are paid from a special bank account which is reimbursed periodically by the home office. Just prior to the end of the year, the home office forwarded a reimbursement check in the amount of $3,000, which was not received by the branch until January, 1962.

(7) It is not necessary to make provisions for federal income tax.

(a) Prepare a reconciliation of branch office and home office current accounts showing the corrected book balances.

(b) Prepare working papers combining the accounts of the home office and the branch.

Problem 16-11. Multiple Company had branches in several cities. According to company policy, all collections made by branches were deposited in a bank account against which only the home office could draw. Each branch had an imprest fund of $1,000 from which branch expenses were paid. It was the company's policy to replenish such funds at year end and whenever the balance was reduced to $200. All shipments to branches were billed at an advance of 25% over cost. The branches determined and reported their inventories at billed prices. Fixed assets used by the branches were carried on the home office books. For the fixed assets used by the Mound branch, the depreciation charge for 1961, recorded on the home office books, amounted to $1,800.

The income statement for 1961 submitted by the Mound branch has been lost. It is agreed by everyone who saw the statement that it showed a net income equal to 5% of net sales. Last year's income statement submitted by the Mound branch showed an ending inventory of $7,875.

A summary of the branch office current account for the Mound branch follows:

Mound Branch Current

1961		1961	
Balance—December 31, 1960	15,705	Remittances	45,160
Shipments to branch (of which $5,000 was in transit as of December 31, 1961)	32,000		
Reimbursement of expenses	11,350		
Net income	2,315		

(a) Reconstruct the income statement submitted by the Mound branch for 1961.

(b) Prepare all entries on the home office books relating to the recording and adjusting of the branch net income or loss for 1961.

Problem 16-12. Southern Corporation operates a sales branch in Daytona. Goods shipped to the branch are billed at cost. All cash receipts from customers are immediately remitted to the home office. Furniture and fixtures are carried on the books of the branch. The home office purchases and pays for all additions to furniture and fixtures. A working fund is maintained at the branch from which branch expenses are paid; reimbursements thereof are made by draft on the home office.

On December 31, 1961, the following statements were rendered to the home office by the branch:

SOUTHERN CORPORATION
Daytona Branch
Comparative Balance Sheet
December 31, 1960 and 1961

	December 31, 1960	December 31, 1961
Cash working fund	$ 2,000	$ 3,500
Accounts receivable	63,880	62,630
Inventory	46,380	73,200
Prepaid expenses	400	650
Furniture and fixtures	10,000	12,200
	$122,660	$152,180
Accrued salaries	$ 600	$ 750
Allowance for doubtful accounts	1,900	2,050
Accumulated depreciation	3,000	4,110
Home office current	117,160	145,270
	$122,660	$152,180

SOUTHERN CORPORATION
Daytona Branch
Income Statement
For the Year Ended December 31, 1961

Sales		$450,090
Deduct:		
Sales returns and allowances	$ 2,240	
Sales discounts	1,720	3,960
Net sales		$446,130
Deduct cost of goods sold:		
Inventory—December 31, 1960	$ 46,380	
Shipments from home office, after deducting $1,200 for the cost of goods returned to the home office as unsuitable for the Daytona sales area	390,640	
Total	$437,020	
Inventory—December 31, 1961	73,200	363,820
Gross profit on sales		$ 82,310
Deduct:		
Salaries	$ 30,900	
Rent expense	8,400	
Depreciation of furniture and fixtures	1,110	
Provision for bad debts	1,200	
Other expenses	3,450	
Home office overhead charged to branch	22,000	67,060
Net income		$ 15,250

The home office income statement is on the following page.

SOUTHERN CORPORATION
Home Office
Income Statement
For the Year Ended December 31, 1961

Sales			$500,000
Deduct:			
Sales returns and allowances		$ 3,460	
Sales discounts		2,100	5,560
Net sales			$494,440
Deduct cost of goods sold:			
Inventory—December 31, 1960		$125,000	
Purchases	$806,840		
Less shipments to branch	396,840	410,000	
Total		$535,000	
Inventory—December 31, 1961		133,000	402,000
Gross profit on sales			$ 92,440
Deduct:			
Salaries		$ 44,200	
Rent expense		12,000	
Depreciation of furniture and fixtures		2,000	
Provision for bad debts		1,100	
Other expenses		15,110	
Total		$ 74,410	
Deduct allocation to branch		22,000	52,410
Net income			$ 40,030
Add branch net income			15,250
Combined net income			$ 55,280

The bookkeeper for the home office recorded the goods returned by the branch as follows:

Sales returns and allowances	1,200	
Branch current		1,200

Half of the goods returned have been sold by the home office and the remaining half is considered salable. For inventory purposes, freight applicable to the unsold returned goods has been included in the December 31, 1961 inventory as follows:

Freight cost on shipment from:	
Supplier to home office	$32
Home office to branch	12
Branch to home office	12
Total	$56
50% thereof capitalized	$28

Required:

(a) An analysis of the Branch Current account for 1961, without including any corrections you may believe necessary. You may assume that the reciprocal current accounts were in agreement as of December 31, 1960 and that there is no cash in transit as of December 31, 1961.

(b) A working paper combining the income statements to show the correct results of operations for 1961.

Assignment Material for Chapter 17

Questions

Question 17-1. Mention some contrasting features of consolidated balance sheets and unconsolidated balance sheets.

Question 17-2. When does a parent-and-subsidiary relationship exist?

Question 17-3. When does a minority interest exist?

Question 17-4. Name some of the reasons why corporations acquire or organize subsidiaries.

Question 17-5. Assume that the subsidiary had a deficit at the date of acquisition, and that the parent company bought all of the stock, paying par less the deficit. What accounts should be eliminated in making a consolidated balance sheet at the date of acquisition?

Question 17-6. Assume that the parent company acquired 98% of the stock of the subsidiary, and that a consolidated balance sheet is to be made at the date of acquisition. Assume also that the parent company paid exactly book value for its holding, as shown by the books of the subsidiary. State how the eliminations should be made and how the minority interest should be determined in each of the following cases:

(a) The subsidiary had no retained earnings.
(b) The subsidiary had retained earnings.
(c) The subsidiary had a deficit.

Question 17-7. State the amount of the goodwill and of the minority interest in the following case, and explain how you obtained your figures. The subsidiary has a capital stock of $100,000 and retained earnings of $50,000. The parent company acquired 90% of the stock and paid $140,000 for it. A consolidated balance sheet is to be made at the date of acquisition.

Question 17-8. The trial balance of Company *P* shows the following account:

Investment in stock of subsidiary—90%—at cost	80,000

Under what circumstances, if any, will this account appear in the consolidated balance sheet of Company *P* and Subsidiary?

Question 17-9. Cite some examples of intercompany eliminations.

Question 17-10. What is the amount of the consolidated retained earnings under the conditions given as of the following dates?

(a) Parent owns 100% of the subsidiary's stock:

December 31, 1960—the date of acquisition:	
Retained earnings:	
Parent company	$60,000
Subsidiary company	20,000
December 31, 1961:	
Retained earnings:	
Parent company	$66,000
Subsidiary company	23,000

(b) Same facts except that the parent owns 80% of the subsidiary's stock.

Problems

Problem 17-1. Prepare consolidated balance sheet working papers from the following information, which shows the condition of the parent company and the subsidiary on December 31, 1961, the date when the parent company purchased the subsidiary stock.

	Case I		Case II		Case III	
Assets	Co. *P*	Co. *S*	Co. *P*	Co. *S*	Co. *P*	Co. *S*
Cash	$20,000	$30,000	$36,000	$25,000	$11,000	$16,000
Investment in Co. *S* (90%)	57,000		43,000		55,000	
Other assets	6,000	33,000	6,000	23,000	6,000	43,000
	$83,000	$63,000	$85,000	$48,000	$72,000	$59,000
Liabilities and Stockholders' Equity						
Accounts payable	$ 3,000	$ 1,000	$ 5,000	$ 1,000	$ 3,000	$ 1,000
Capital stock	75,000	50,000	75,000	50,000	75,000	50,000
Retained earnings or deficit*	5,000	12,000	5,000	3,000*	6,000*	8,000
	$83,000	$63,000	$85,000	$48,000	$72,000	$59,000

Problem 17-2. Company *A* acquired its 100% interest in the stock of Company *B* on June 30, 1959, when the retained earnings of Company *B* amounted to $10,000.

In the information presented below, the investment is shown at cost.

Prepare consolidated balance sheet working papers as of June 30, 1960 and 1961.

	June 30, 1960		June 30, 1961	
	Company		Company	
Assets	*A*	*B*	*A*	*B*
Cash	$ 6,400	$10,000	$ 5,800	$ 8,200
Merchandise inventory	10,100	14,000	12,000	17,800
Investment in stock of Company *B* (100%)	41,500		41,500	
Other assets	40,000	30,000	42,000	27,000
	$98,000	$54,000	$101,300	$53,000
Liabilities and Stockholders' Equity				
Accounts payable	$10,000	$ 8,000	$ 13,700	$ 9,000
Common stock	60,000	30,000	60,000	30,000
Retained earnings	28,000	16,000	27,600	14,000
	$98,000	$54,000	$101,300	$53,000

Problem 17-3. On December 31, 1961, Parent Company acquired all of the capital stock of Subsidiary Company, consisting of 15,000 shares with a stated value of $10 per share, for $150,000. The balance sheets of the two companies appeared as follows:

Assets	Parent	Subsidiary
Cash	$ 25,000	$ 20,000
Accounts receivable	60,000	35,000‡
Inventories	71,000	50,000
Investment in Subsidiary Company	150,000	
Land	60,000	30,000
Buildings—net	76,000	15,000
	$442,000	$150,000

Liabilities and Stockholders' Equity	Parent	Subsidiary
Accounts payable	$ 52,000‡	$ 10,000
Loans	25,000	
Capital stock	250,000	150,000
Paid-in surplus		50,000
Retained earnings (deficit*)	115,000	60,000*
	$442,000	$150,000

‡ Includes amount of $20,000 receivable by the subsidiary from the parent.

Prepare consolidated balance sheet working papers.

Problem 17-4. From the following balance sheet data, as of December 31, 1961, and supplementary information, prepare consolidated balance sheet working papers.

Assets	Boulder Company	Cavern Company
Cash	$ 58,300	$ 15,600
Accounts receivable	73,600	32,400
Allowance for doubtful accounts	2,400*	1,600*
Inventory	90,000	53,200
Investment in Cavern Company	93,500	
Furniture and fixtures	64,200	58,800
Accumulated depreciation—Furniture and fixtures	28,400*	17,200*
	$348,800	$141,200
Liabilities and Stockholders' Equity		
Accounts payable	$ 36,800	$ 12,400
Income tax payable	25,000	14,200
Capital stock	200,000	100,000
Retained earnings	87,000	14,600
	$348,800	$141,200

* Deduction.

Boulder Company paid $11 per share for its interest in Cavern Company. This price included a premium over par value of $1 per share. At the time of the stock acquisition, the stockholders' equity of Cavern Company was $105,000.

Problem 17-5. The balance sheet of Medium Company is presented below.

MEDIUM COMPANY
Balance Sheet
December 31, 1960

Assets		Liabilities and Stockholders' Equity	
Cash	$41,000	Accounts payable	$ 4,500
Inventory	32,400		
Prepaid expenses	3,100	Capital stock	60,000
Land	20,000	Retained earnings	32,000
	$96,500		$96,500

As of January 2, 1961, Medium Company organized a subsidiary company, Smaller Company, and transferred $30,000 of cash and $10,000 of inventory for all of the capital stock of the newly organized company. An additional $6,000 of cash was transferred to the subsidiary company as a noninterest-bearing advance, to be repaid in three years.

Assuming that there were no other transactions on January 2, 1961, prepare the consolidated balance sheet for Medium Company and its subsidiary as of January 2, 1961.

Also prepare the consolidated balance sheet as of December 31, 1961, by making use of the following balance sheet data. (The preparation of working papers is optional.)

	December 31, 1961	
Debits	Medium Company	Smaller Company
Cash	$ 4,700	$ 5,500
Advances to Smaller Company	6,000	
Inventory	21,100	18,300
Prepaid expenses	2,400	1,300
Investment in Smaller Company (100%)	40,000	
Land	20,000	27,700
	$94,200	$52,800
Credits		
Accounts payable	$ 8,700	$ 2,800
Advances from Medium Company		6,000
Capital stock	60,000	35,000
Paid-in surplus		5,000
Retained earnings	25,500	4,000
	$94,200	$52,800

Problem 17-6. The December 31, 1961 balance sheets of Randy Company and Sandy Corporation are presented below.

RANDY COMPANY AND SANDY CORPORATION
Balance Sheets
December 31, 1961

Assets	Randy Company	Sandy Corporation
Cash	$ 28,400	$ 5,700
Accounts receivable, net of allowance for doubtful accounts	36,100	11,300
Advance to Sandy Corporation	35,000	
Inventory	81,500	18,500
Prepaid expenses	8,400	2,600
Investment in Sandy Corporation (90%)	30,000	
Land	15,000	8,500
Buildings, net of accumulated depreciation	103,600	33,100
Equipment, net of accumulated depreciation	133,900	10,200
	$471,900	$89,900
Liabilities and Stockholders' Equity		
Accounts payable	$ 18,900	$15,300
Income tax payable	52,400	3,200
Advance from Randy Company		33,000
Capital stock	300,000	30,000
Retained earnings	100,600	8,400
	$471,900	$89,900

Randy Company acquired its interest in Sandy Corporation several years ago when the latter corporation had a deficit of $2,400.

On December 31, 1961, Sandy Corporation made a payment of $2,000 on the advance from Randy Company.

Prepare consolidated balance sheet working papers.

Problem 17-7. On the date of the following balance sheet, Super Company became a subsidiary of Powder Company as a result of the latter company's purchase of 900 shares of the outstanding stock at $150 per share. Powder Company agreed to pay for the stock in ten days.

SUPER COMPANY
Balance Sheet
June 30, 1961

Assets

Current assets:			
Cash		$ 15,000	
Accounts receivable:			
Powder Company	$12,000		
Others—Trade	30,000	42,000	
Inventory		40,000	$ 97,000
Fixed assets:			
Cost		$ 71,000	
Accumulated depreciation		13,000	58,000
			$155,000

Liabilities and Stockholders' Equity

Current liabilities:		
Accounts payable		$ 30,000
Stockholders' equity:		
Common stock—1,000 shares	$100,000	
Retained earnings	25,000	125,000
		$155,000

Before the above purchase of stock was recorded, the books of Powder Company contained the following balances:

Cash	$145,000	
Accounts receivable	67,000	
Inventory	51,000	
Fixed assets	215,000	
Accumulated depreciation		$ 90,000
Accounts payable:		
Super Company		12,000
Others—Trade		45,000
Notes payable		75,000
Preferred stock		100,000
Common stock		200,000
Deficit—December 31, 1960	64,000	
Income—all sources		300,000
Cost of sales	200,000	
Expenses	80,000	
	$822,000	$822,000

Prepare suitable working papers to supply the data needed for the preparation of a consolidated balance sheet as of June 30, 1961.

Problem 17-8. From the balance sheet data of a parent company and subsidiaries as of June 30, 1961, on the next page, prepare consolidated balance sheet working papers. Company *Y* was acquired on this date, but Company *Z* was acquired some time ago when its retained earnings amounted to $1,000.

Assets	Co. X	Co. Y	Co. Z
Cash	$ 24,905	$11,670	$ 12,624
Accounts receivable:			
Co. Y	2,400		
Co. Z	5,600		
Other	44,200	25,960	26,886
Inventory	42,375	19,630	44,870
Investments in subsidiary stocks:			
Co. Y—4,500 shares	50,000		
Co. Z—9,200 shares	95,220		
Fixed assets	47,200	22,890	36,540
	$311,900	$80,150	$120,920
Liabilities and Stockholders' Equity			
Accounts payable	$ 16,900	$26,850	$ 17,420
Capital stock:			
Co. X— 5,000 shares	250,000		
Co. Y— 5,000 shares		50,000	
Co. Z—10,000 shares			100,000
Paid-in surplus	25,000	5,000	
Retained earnings—deficit*	20,000	1,700*	3,500
	$311,900	$80,150	$120,920

Problem 17-9. Companies A, B, C, and D are subsidiaries of Company P. Certain information regarding the parent company and each subsidiary is presented below.

Subsidiary	Per Cent Owned	Date Acquired	Cost of Investment	Capital Stock	Retained Earnings at Acquisition	Retained Earnings 12/31/59	Retained Earnings 12/31/61
A	90%	12/31/57	$ 75,000	$ 60,000	$20,000	$28,000	$25,000
B	80	12/31/58	115,000	100,000	40,000	45,000	52,000
C	100	12/31/59	225,000	200,000	25,000	25,000	33,500
D	75	12/31/60	65,000	120,000	30,000*	20,000*	10,000*

* Deficit.

Company P

Date	Retained Earnings
12/31/57	$10,000
12/31/58	15,000*
12/31/59	5,000
12/31/60	20,000
12/31/61	35,000

* Deficit.

Prepare a schedule showing the computation of consolidated retained earnings as of December 31, 1959 and 1961.

Problem 17-10. Company P was organized on August 31, 1961, with $800,000 of capital stock, all of which was issued for cash at par. Company P immediately organized Company A and transferred $300,000 cash in exchange for all of the 3,000 authorized shares. Company P also made the following stock purchases for cash as of August 31, 1961:

1,400 shares of Company B stock for $150 per share;
1,950 shares of Company C stock for $110 per share.

Data from the accounts of Companies B and C, as of August 31, 1961, are presented on the opposite page.

	Company *B*	Company *C*
Cash	$ 50,000	$ 5,000
Other current assets	60,000	95,000
Plant	100,000	100,000
	$210,000	$200,000
Notes payable	$ 10,000	
Capital stock—$100 par value	160,000	$200,000
Retained earnings	40,000	
	$210,000	$200,000

Prepare consolidated balance sheet working papers.

Problem 17-11. Prepare a schedule showing the amounts that would appear in the consolidated balance sheet for the following items:

Excess of cost over book value—Goodwill
Minority interest
Consolidated retained earnings

	Company *P*		Company *S*	
	Investment in Company *S*	Retained Earnings	Capital Stock	Retained Earnings
Per cent owned—90%				
Case A—at acquisition	$175,000	$ 30,000	$150,000	$40,000
Case B—end of 1 year	175,000	20,000	150,000	43,000
Case C—end of 2 years	175,000	25,000	150,000	50,000
Case D—end of 3 years	175,000	35,000	150,000	60,000
Case E—end of 4 years	175,000	50,000	150,000	45,000
Per cent owned—80%				
Case F—at acquisition	190,000	100,000	200,000	20,000
Case G—end of 1 year	190,000	110,000	200,000	50,000
Case H—end of 2 years	190,000	90,000	200,000	40,000
At end of 3rd year, Co. *P* acquires an additional 10% of stock of Co. *S*.				
Per cent owned—90%				
Case I—end of 3 years	220,000	100,000	200,000	80,000
Case J—end of 4 years	220,000	130,000	200,000	90,000

Problem 17-12. Balance sheet data for a parent and its subsidiary are presented below.

Balance Sheet Data
December 31, 1961

	Golden Company	Sterling Company
Cash	$ 9,000	$ 3,000
Accounts receivable	28,000	12,000
Inventory	40,000	36,000
Investment in stock of Sterling Company	109,000	
Fixed assets—net	130,000	110,000
	$316,000	$161,000
Accounts payable	$ 21,000	$ 9,000
Capital stock	200,000	100,000
Paid-in surplus		10,000
Retained earnings	95,000	42,000
	$316,000	$161,000

Sterling Company was organized on August 1, 1958. Its authorized stock consisted of 10,000 shares with a stated value of $10 per share. All of the authorized shares were subscribed for and issued at $11 per share.

One of the original subscribers was Golden Company. It acquired 7,000 shares when Sterling Company was organized. On June 30, 1960, when the retained earnings of Sterling Company amounted to $33,000, Golden Company purchased an additional 2,000 shares from other original subscribers. The company paid $16 per share for the additional shares.

Among the accounts payable of Sterling Company is $4,000 owed to Golden Company. Prepare consolidated balance sheet working papers as of December 31, 1961.

Assignment Material for Chapter 18

Questions

Question 18-1. Give a description of the operation of the cost basis of accounting for an investment in a subsidiary.

Question 18-2. Give a general appraisal of the cost method of accounting for investments in subsidiaries.

Question 18-3. Are dividends received by the parent from a subsidiary shown in the consolidated income statement? Explain.

Question 18-4. Does the consolidated statement of retained earnings show only the dividends declared by the parent, or the aggregate dividends declared by the parent and its subsidiaries?

Question 18-5. Why is it convenient to divide the subsidiary's retained earnings between the amount at acquisition and the subsequent increase?

Question 18-6. Describe how to compute the minority interest in determining consolidated net income.

Question 18-7. Give two examples of intercompany eliminations that might appear in the Income Statement section only of the consolidated working papers.

Question 18-8. Describe the elimination procedure when a subsidiary has discounted some of its customers' notes with the parent company and the notes have not matured.

Problems

Problem 18-1. The trial balances of a parent company and its wholly-owned subsidiary are presented below. The parent-subsidiary relationship has existed for one year only. Prepare consolidated working papers.

Trial Balances
December 31, 1961

	Primary Company	Secondary Company
Debits		
Cash	111,000	60,000
Accounts receivable	87,000	39,000
Inventory	180,000	135,000
Investment in stock of Secondary Company (100%)	210,000	
Dividends	18,000	9,000
Purchases	402,000	219,000
Expenses	93,000	54,000
	1,101,000	516,000
Credits		
Accounts payable	57,000	30,000
Capital stock	300,000	150,000
Retained earnings	150,000	60,000
Sales	585,000	276,000
Dividend from subsidiary	9,000	
	1,101,000	516,000
Inventory—December 31, 1961	$ 120,000	$144,000

Problem 18-2. Several years ago Par Company acquired all of the stock of Standard Company at its book value. The parent company uses the cost basis in accounting for its investment in Standard Company.

The June 30, 1961 trial balances are presented below. The accounts therein include intercompany receivables and payables of $3,550.

Trial Balances
June 30, 1961

	Par Company		Standard Company	
Cash	18,250		11,000	
Accounts receivable	18,750		21,250	
Inventory—June 30, 1960	20,000		24,000	
Investment in Standard Company	35,000			
Accounts payable		8,500		6,750
Capital stock		50,000		25,000
Retained earnings		28,500		17,500
Dividends	3,000		2,000	
Sales		107,000		66,500
Purchases	82,500		46,000	
Expenses	18,500		11,500	
Dividends from subsidiary		2,000		
	196,000	196,000	115,750	115,750
Inventory—June 30, 1961	$ 21,000		$ 19,500	

Required:

Consolidated working papers.
Consolidated income statement.

Problem 18-3. The trial balances of a parent and its 90%-owned subsidiary are presented below. The investment was acquired at book value.

Trial Balances
June 30, 1961

	King Company	Lower Company
Debits		
Cash	37,000	22,000
Accounts receivable	24,000	42,400
Advances to parent		20,000
Inventory	36,000	43,300
Investment in Lower Company (90%)	85,500	
Dividends	9,600	5,250
Purchases	220,000	137,500
Expenses	105,000	89,800
	517,100	360,250
Credits		
Accounts payable	32,375	8,250
Advances from subsidiary	20,000	
Retained earnings (deficit*)	10,000*	45,000
Capital stock	120,000	75,000
Sales, including intercompany sales of $40,000	350,000	232,000
Dividends from subsidiary	4,725	
	517,100	360,250
Additional information:		
Inventory—June 30, 1961	$ 37,700	$ 42,900

The advances are noninterest-bearing.

Required:

Consolidated working papers.
Consolidated statement of retained earnings for the year ended June 30, 1961.

Problem 18-4. Pam Company purchased an 80% interest in the stock of Southdale Company for $56,000 when the latter company's stockholders' equity amounted to $70,000. The trial balances of the companies are presented below.

Trial Balances
December 31, 1961

	Pam Company		Southdale Company	
Cash	41,000		17,500	
Accounts receivable—net	38,720		19,420	
Notes receivable	13,000		3,000	
Notes receivable discounted				3,000
Inventory—December 31, 1960	51,200		47,430	
Investment in stock of Southdale Company (80%)	56,000			
Fixed assets	83,500		60,000	
Accumulated depreciation		35,700		20,000
Accounts payable		63,300		29,460
Capital stock		100,000		60,000
Retained earnings		56,970		25,990
Dividends	7,500		6,000	
Sales		310,000		200,000
Purchases	207,810		123,400	
Selling expenses	40,340		33,230	
Administrative expenses	32,170		28,470	
Interest earned		470		
Dividend from subsidiary		4,800		
	571,240	571,240	338,450	338,450
Inventory—December 31, 1961	$ 50,810		$ 48,120	

Pursuant to an agreement between the companies, all notes receivable acquired by the subsidiary company are transferred immediately at face value to the parent company.

During 1961, the sales of Southdale Company included $30,000 of sales to Pam Company.

Required:

(a) Consolidated working papers.
(b) Consolidated balance sheet.

Problem 18-5. This is a continuation of Problem 18-4. The agreement between the companies concerning the discounting of notes has continued during 1962. The intercompany sales during 1962 amounted to $33,000. On October 1, 1962, Southdale borrowed $10,000 from Pam Company on a 6% note due in one year with interest payable April 1, 1963 and at maturity.

The trial balance is on page 710.

Trial Balances
December 31, 1962

	Pam Company		Southdale Company	
Cash	43,470		24,150	
Accounts receivable—net	39,500		20,660	
Notes receivable:				
Trade	15,000		5,000	
Southdale Company	10,000			
Notes receivable discounted				5,000
Accrued interest receivable	150			
Inventory—December 31, 1961	50,810		48,120	
Investment in stock of Southdale Company (80%)	56,000			
Fixed assets	93,500		65,000	
Accumulated depreciation		43,800		26,000
Accounts payable		48,320		16,160
Notes payable—Pam Company				10,000
Accrued interest payable				150
Capital stock		100,000		60,000
Retained earnings		84,030		35,580
Dividends	10,000		6,000	
Sales		334,000		222,000
Purchases	215,440		138,000	
Selling expenses	48,430		36,700	
Administrative expenses	33,330		31,110	
Interest expense			150	
Interest earned		680		
Dividend from subsidiary		4,800		
	615,630	615,630	374,890	374,890
Inventory—December 31, 1962	$ 48,200		$ 45,450	

Prepare consolidated working papers.

Problem 18-6. Company *A* organized its two subsidiaries, paying in all of the starting capital of the two companies. Trial balance data for the parent and the subsidiaries are presented below.

Trial Balance Data
April 30, 1961

	Company		
Debits	*A*	*B*	*C*
Cash	19,000	12,000	30,000
Advances to *C*		1,000	
Notes receivable—*B*	5,000		
Inventory—April 30, 1960	40,000	25,000	28,000
Investment in subsidiaries (100%):			
Company *B*	50,000		
Company *C*	75,000		
Other assets	21,000	24,000	54,000
Purchases	300,000	225,000	270,000
Operating expenses	80,000	75,000	60,000
Interest expense		75	
Dividends	10,000		6,000
	600,000	362,075	448,000

Trial Balance Data (Concluded)
April 30, 1961

Credits	Company A	Company B	Company C
Advances from *B*			1,000
Notes payable—*A*		5,000	
Notes receivable discounted	5,000		
Accrued interest payable		75	
Common stock—no par	100,000	40,000	60,000
Paid-in surplus	10,000	10,000	15,000
Retained earnings	79,000	7,000	22,000
Sales	400,000	300,000	350,000
Dividends from subsidiaries	6,000		
	600,000	362,075	448,000

Additional information:

Inventory—April 30, 1961	$ 38,000	$ 23,000	$ 30,000
Intercompany sales:			
A to *B*	$ 10,000		
A to *C*	5,000		
B to *C*	7,000		

Prepare consolidated working papers.

Problem 18-7. Selected information taken from the accounts of a parent company and its subsidiary as of June 30, 1961, the close of the fiscal year of the companies, is presented below. The interest in the subsidiary was acquired on June 30, 1958, when the subsidiary was organized.

	Parent Company	Subsidiary Company
Retained earnings—beginning of current year	$136,000	$ 82,000
Investment in subsidiary company—at cost (90%)	90,000	
Sales, including $15,000 of sales by subsidiary to parent	300,000	210,000
Miscellaneous income, including interest and dividends	30,000	11,000
Cost of goods sold	200,000	125,000
Expenses, including interest	80,000	70,000
Dividends declared and paid	20,000	10,000
5% bonds payable—issued at par		100,000
Investment in bonds of subsidiary—purchased at par plus accrued interest on August 11, 1959	25,000	

Determine the following:

Consolidated net income for the year ended June 30, 1961.
Consolidated retained earnings as of June 30, 1961.

Problem 18-8. The unconsolidated balance sheets and income statements of a parent company and its 90%-owned subsidiary are presented on page 712 in columnar form. The interest in the subsidiary was purchased for $4,000 above the book value of the stock.

During the year ended July 31, 1961, National Company declared and paid a cash dividend equal to 7% of its outstanding stock.

Income Statements
For the Year Ended July 31, 1961

	National Company		State Company	
Sales		$500,000		$400,000
Deduct cost of goods sold:				
Inventory—July 31, 1960	$ 40,000		$ 32,000	
Purchases	380,000		300,000	
Total	$420,000		$332,000	
Deduct inventory—July 31, 1961	30,000	390,000	25,000	307,000
Gross profit on sales		$110,000		$ 93,000
Operating expenses		90,000		82,000
Net operating income		$ 20,000		$ 11,000
Add:				
Interest earned on bonds		1,200		
Dividends from subsidiary		4,500		
Deduct bond interest expense				3,000
Net income		$ 25,700		$ 8,000

Balance Sheets
July 31, 1961

Assets	National Company		State Company	
Cash		$ 18,410		$ 12,540
Accrued bond interest receivable		200		
Inventory		30,000		25,000
Investment in bonds of State Company—at par		20,000		
Investment in stock of State Company—at cost		112,000		
Other assets		96,000		165,760
		$276,610		$203,300
Liabilities and Stockholders' Equity				
Accounts payable		$ 13,610		$ 7,800
Accrued bond interest payable				500
Bonds payable—6%—J.&D.				50,000
Capital stock	$200,000		$100,000	
Retained earnings	63,000	263,000	45,000	145,000
		$276,610		$203,300

Required:

(a) Consolidated working papers.
(b) Consolidated statement of retained earnings for the year ended July 31, 1961.

Problem 18-9. Several years ago Pollmar Company purchased 8,000 shares of stock in Saturn Company for $18 per share. This price was $2 per share above book value. The investment is carried at cost.

The balance sheets of the companies at the close of the preceding fiscal year showed the following information under the Stockholders' Equity caption.

	July 31, 1960
Stockholders' equity—Pollmar Company:	
Common stock—20,000 shares at $25 par value	$500,000
Retained earnings	217,417
Total	$717,417

Stockholders' equity—Saturn Company:	
Common stock—10,000 shares of $10 stated value	$100,000
Retained earnings	97,500
Total	$197,500

The net income of each company from its operations during the year ended July 31, 1961, is set forth below:

Pollmar Company	$ 37,313
Saturn Company	22,220

During the year ended July 31, 1961, each company declared and paid a 5% cash dividend.

Prepare the consolidated statement of retained earnings for the year ended July 31, 1961.

Problem 18-10. In 1957, Pittsburgh Corporation organized a wholly-owned subsidiary, Smooth Corporation. The corporation uses the cost basis in accounting for its investment in the subsidiary. The consolidated statement of retained earnings submitted below has been properly prepared.

PITTSBURGH CORPORATION AND SUBSIDIARY
Consolidated Statement of Retained Earnings
For the Year Ended March 31, 1961

Retained earnings—March 31, 1960	$317,000
Net income	84,600
Total	$401,600
Deduct dividends	36,300
Retained earnings—March 31, 1961	$365,300

The unconsolidated balance sheet of Pittsburgh Corporation, as of March 31, 1961, reports the retained earnings as of that date as $311,300. You may assume that the dividends declared by each corporation during the year ended March 31, 1961, amounted to 50% of their unconsolidated net income. During the current year there were intercompany sales of $17,000.

Prepare the unconsolidated statements of retained earnings for the corporations for the year ended March 31, 1961.

Problem 18-11. Sun Company paid $5,000 above book value when it purchased its 80% interest in Moon Company. The investment in the subsidiary is carried at cost.

The trial balances at the current year end are on page 714.

The inventory of Moon Company does not include a shipment in transit of $1,000, recorded and shipped by Sun Company on June 29, 1960. Moon Company has informed the parent company that it will handle the item as a July purchase. This invoice is the only unsettled intercompany billing.

According to an agreement between the companies, Moon Company immediately discounts all notes received with Sun Company. It is the practice of Sun Company to rediscount half of such notes.

The bonds of Sun Company held by the subsidiary were purchased at par from investors on October 1, 1959. The bonds were issued in 1955.

Intercompany sales by Sun Company to Moon Company—$12,000.

After analyzing the trial balances to determine the necessity for working paper adjustments, prepare consolidated working papers. Also submit the consolidated income statement for the year ended June 30, 1960.

Trial Balances
June 30, 1960

	Sun Company		Moon Company	
Cash	6,975		4,750	
Accounts receivable	29,400		18,700	
Notes receivable	10,000		10,000	
Notes receivable discounted		5,000		10,000
Accrued interest receivable	100			
Inventory	30,000		20,000	
Investment in bonds of Sun Company—par			25,000	
Investment in subsidiary (80%)	93,000			
Other assets	140,000		87,000	
Accounts payable		7,500		6,200
Accrued interest payable		750		
Dividends payable				5,000
Bonds payable—6%—par—A.&O.		50,000		
Capital stock		150,000		100,000
Retained earnings		94,000		46,000
Dividends	7,500		10,000	
Sales		300,000		250,000
Purchases	210,000		172,000	
Rent expense	2,400		1,800	
Salaries and commissions	50,000		44,000	
Advertising	2,100		1,700	
Office expense	27,000		23,000	
Interest earned		225		750
Dividend income		4,000		
Bond interest expense	3,000			
	611,475	611,475	417,950	417,950
Inventory—June 30, 1960	$ 31,000		$ 24,000	

Problem 18-12. This is a continuation of Problem 18-11. It will be helpful to consult the preceding problem for background information.

The trial balances for June 30, 1961 are presented below.

Trial Balances
June 30, 1961

	Sun Company		Moon Company	
Cash	20,165		10,150	
Accounts receivable	27,000		19,000	
Notes receivable	8,000		8,000	
Notes receivable discounted		4,000		8,000
Accrued interest receivable	110			
Inventory	31,000		24,000	
Investment in bonds of Sun Company—par			25,000	
Investment in subsidiary (80%)	93,000			
Other assets	150,000		92,000	
Accounts payable		14,000		11,000
Accrued interest payable		750		
Bonds payable—6%—par—A.&O.		50,000		
Capital stock		150,000		100,000
Retained earnings		97,225		48,250
Dividends	7,500		10,000	
Sales		310,000		275,000
Purchases	215,000		180,000	
Rent expense	2,400		1,800	

Trial Balances (Concluded)
June 30, 1961

	Sun Company		Moon Company	
Salaries and commissions	51,000		48,000	
Advertising	2,100		1,800	
Office expense	28,000		24,000	
Interest earned		300		1,500
Dividend income		12,000		
Bond interest expense	3,000			
	638,275	638,275	443,750	443,750

Additional information:

	Sun Company	Moon Company
Inventory—June 30, 1961	$ 33,000	$ 22,000

There were no shipments in transit as of June 30, 1961.
The agreement concerning the discounting of notes is still in effect.
There has been no change in the investment in the bonds of Sun Company.
Intercompany sales by Sun Company to Moon Company—$15,000.

Prepare consolidated working papers.

Assignment Material for Chapter 19

Questions

Question 19-1. Give a description of the operation of the equity method of accounting for an investment in a subsidiary.

Question 19-2. Give a general appraisal of the equity method of accounting for investments in subsidiaries.

Question 19-3. From the point of view of nonconsolidated statements, which method of accounting for investments in subsidiaries is preferred? Why?

Question 19-4. When the cost method is used, eliminations are made on the basis of the book value of the subsidiary's stock at the date of acquisition. What is the basis used for eliminations when the equity method is used?

Question 19-5. Enumerate the differences, if any, in the form and content of consolidated financial statements if the parent company uses the equity method of accounting for its investment in subsidiaries in place of the cost method.

Question 19-6. Describe an acceptable method of accounting for declared dividends unpaid at date of acquisition of an interest in a subsidiary company.

Question 19-7. What recognition should be given in the parent's accounts to a decrease in subsidiary net assets since acquisition if the parent uses the cost method of accounting?

Question 19-8. Under what circumstances might a purchase of a controlling interest in a subsidiary result in an immediate gain or loss?

Question 19-9. Is the amount shown for consolidated retained earnings reduced when a subsidiary capitalizes a portion of its retained earnings?

Question 19-10. How should a parent company account for the receipt of a common-on-common stock dividend from its subsidiary? In your answer, cover the case in which the parent uses the cost method and the case in which the parent uses the equity method.

Problems

Problem 19-1. The trial balances of a parent company and its subsidiary are presented below. The parent-subsidiary relationship has existed for one year only.

Trial Balances
June 30, 1961

Debits	Senior Company	Junior Company
Cash	103,000	52,000
Accounts receivable	95,000	47,000
Inventory	170,000	125,000
Investment in Junior Company (100%)	213,000	
Dividends	18,000	9,000
Purchases	400,000	217,000
Expenses	95,000	56,000
	1,094,000	506,000

Credits		
Accounts payable	48,000	20,000
Capital stock	300,000	150,000
Retained earnings	150,000	60,000
Sales	584,000	276,000
Subsidiary income	12,000	
	1,094,000	506,000
Inventory—June 30, 1961	$ 110,000	$134,000

Required:

Consolidated working papers.

Problem 19-2. The trial balances of a parent and its 80%-owned subsidiary are presented below. The investment was acquired at book value and the equity method of accounting is used by the parent company.

Trial Balances
March 31, 1961

	Federal Company		Local Company	
Cash	31,000		22,750	
Accounts receivable	24,000		32,400	
Advances to subsidiary	10,000			
Inventory	26,000		33,300	
Investment in Local Company (80%)	95,840			
Other assets	60,000		50,000	
Accounts payable		27,460		8,250
Advances from parent				10,000
Capital stock		200,000		75,000
Retained earnings		4,940		45,000
Dividends	14,000		4,500	
Sales		350,000		232,000
Purchases	220,000		137,500	
Expenses	105,000		89,800	
Subsidiary income		3,440		
	585,840	585,840	370,250	370,250
Inventory—March 31, 1961	$ 27,700		$ 32,900	

The advances are noninterest-bearing. Intercompany sales were $35,000.

Required: Consolidated working papers; consolidated income statement.

Problem 19-3. Company *H* acquired controlling interests in the stocks of three subsidiaries as of January 1, 1961. Certain data with respect to the four companies are presented below:

		Subsidiaries		
	Company *H*	Company *I*	Company *J*	Company *K*
Par value of stock outstanding	$100,000	$ 75,000	$50,000	$50,000
Per cent of subsidiary stock owned by Company *H*		95%	90%	85%
Retained earnings, January 1, 1961	60,000	30,000	40,000	25,000
Cost to Company *H* of stock acquired		100,000	85,000	65,000
Net income (loss*) during 1961		20,000	5,000*	10,000
Dividends paid during 1961	10,000	5,000	3,000	15,000

The parent company does not conduct any operations, and has no income (other than from its investments) and no expenses.

Make entries as they should appear on the books of Company *H* to record:

The stock acquisitions.
Its interests in the subsidiaries' net income, or loss, and dividends, using the equity method of accounting.

Also compute the amounts which should appear in a consolidated balance sheet on December 31, 1961 for minority interests, excess of cost over book value (Goodwill), and retained earnings.

Problem 19-4. The following data are submitted relative to Company *A* and its subsidiaries, whose stocks were acquired as of January 1, 1961:

	Company *A*	Company *X*	Company *Y*	Company *Z*
Par value of stock outstanding.	$500,000	$50,000	$ 75,000	$100,000
Portion of stock owned by Company *A*..................		95%	90%	85%
Retained earnings (deficit*), January 1, 1961............	180,000	30,000	45,000	10,000*
Cost to Company *A* of stock acquired..................		76,000	110,000	78,000
Net income from own operations during 1961...............	45,000	16,000	5,000	12,000
Dividends paid during 1961....	30,000	3,000	4,500	

You may assume that the equity method is being used.

Prepare in journal-entry form the eliminations that would be made in the consolidated working papers for 1961 to eliminate the investment in subsidiary accounts. Also determine the consolidated retained earnings as of December 31, 1961.

Problem 19-5. Mountain Company and its subsidiary prepared the following statements:

Income Statements
For the Year Ended December 31, 1961

	Mountain Company	Valley Company
Sales..	$700,000	$501,000
Deduct cost of goods sold:		
Inventory—December 31, 1960..................	$ 72,000	$ 60,000
Purchases....................................	435,000	321,000
Total..	$507,000	$381,000
Inventory—December 31, 1961..................	60,000	76,000
Cost of goods sold..........................	$447,000	$305,000
Gross profit on sales..........................	$253,000	$196,000
Expenses:		
Selling expenses.............................	$ 83,600	$ 71,900
General expenses.............................	114,000	95,800
Total expenses..............................	$197,600	$167,700
Net income from operations.....................	$ 55,400	$ 28,300
Subsidiary income—Valley Company...............	24,904	
Net income.....................................	$ 80,304	$ 28,300

Statements of Retained Earnings
For the Year Ended December 31, 1961

	Mountain Company	Valley Company
Balances—December 31, 1960	$117,500	$ 62,300
Net income	80,304	28,300
Total	$197,804	$ 90,600
Dividends	50,000	10,000
Balances—December 31, 1961	$147,804	$ 80,600

Balance Sheets
December 31, 1961

Assets	Mountain Company	Valley Company
Cash	$ 42,150	$ 29,300
Accounts receivable	231,000	34,000
Valley Company	7,500	
Inventory	60,000	76,000
Land and buildings—less depreciation	155,000	
Machinery and equipment—less depreciation	111,000	125,700
Investment in Valley Company	203,604	
	$810,254	$265,000
Liabilities and Stockholders' Equity		
Accounts payable	$162,450	$ 54,900
Mountain Company		4,500
Capital stock	500,000	125,000
Retained earnings	147,804	80,600
	$810,254	$265,000

Intercompany sales during the year—$60,000.

Cash in the amount of $3,000 was in transit from Valley Company to Mountain Company.

Prepare consolidated working papers.

Problem 19-6. For the cases below, you may assume that the parent company has used the equity method of accounting for its investment in the subsidiary company. Using the selected data supplied in each case on the next page, compute the following:

Case

A—Consolidated net income.
Consolidated retained earnings as of December 31, 1961.

B—Dividends declared by subsidiary company during year.

C—Consolidated net income.

D—December 31, 1960 balance in the Investment in Subsidiary account.

E—Per cent owned by parent company.

	Case A	B	C	D	E
Investment in subsidiary:					
December 31, 1960	$ 90,000	$120,000			$87,000
December 31, 1961	82,000	131,840		$118,000	87,630
Per cent owned	90%	80%	75%	100%	
1961 net income per income statement of:					
Parent company	18,000				8,400
Subsidiary company		32,800	$ 8,200	24,000	2,200
Dividends declared during year by:					
Parent company			10,000	10,000	4,000
Subsidiary company			7,500	7,500	1,500
Retained earnings per balance sheet of:					
Parent company:					
December 31, 1960	130,000		72,000		
December 31, 1961	137,000		88,000		
Subsidiary company:					
December 31, 1960					
December 31, 1961				62,350	

Problem 19-7. The income statements of the two subsidiaries of Hub Company are presented below.

Income Statements
For the Year Ended December 31, 1961

	Rim Company		Spoke Company	
Sales		$420,000		$600,000
Deduct cost of goods sold:				
Inventory—December 31, 1960	$ 83,000		$107,000	
Purchases	333,000		384,000	
Total	$416,000		$491,000	
Inventory—December 31, 1961	66,000	350,000	91,000	400,000
Gross profit on sales		$ 70,000		$200,000
Expenses, including depreciation		110,000		135,000
Net income (loss*)		$ 40,000*		$ 65,000

Hub Company does not make any purchases or sales; its only source of income is the subsidiaries. During 1961, the expenses of Hub Company amounted to $5,000.

Following is a statement of the changes in the Retained Earnings accounts of the three companies during 1961:

	Hub Company	Rim Company	Spoke Company
Balance—December 31, 1960	$110,000	$77,000	$ 70,000
Net income (loss*) for the year	5,000*	40,000*	65,000
Total	$105,000	$37,000	$135,000
Dividends	30,000	15,000	10,000
Balance—December 31, 1961	$ 75,000	$22,000	$125,000

Balance sheet data as of December 31, 1961, are set forth on the following page.

Balance Sheets—December 31, 1961

Assets	Hub Company	Rim Company	Spoke Company
Cash	$ 53,000	$ 35,000	$ 59,000
Accounts receivable:			
Trade		78,000	107,000
Rim Company	3,000		
Spoke Company	4,000		
Notes receivable—Spoke Company		5,000	
Inventory		66,000	91,000
Investments in subsidiaries:			
Rim Company—80%	265,000		
Spoke Company—90%	310,000		
Plant and equipment		142,000	213,000
Reserve for depreciation		26,000*	35,000*
	$635,000	$300,000	$435,000
Liabilities and Stockholders' Equity			
Accounts payable:			
Trade		$ 25,000	$ 51,000
Hub Company		3,000	4,000
Notes payable:			
Bank	$ 60,000		
Rim Company			5,000
Capital stock—$100 par value	500,000	250,000	250,000
Retained earnings	75,000	22,000	125,000
	$635,000	$300,000	$435,000

* Deduction.

Hub Company has owned the stocks of its subsidiaries for several years and has used the equity method of accounting. The parent company has made all entries required by this method up to December 31, 1961, except that it has not recorded its shares of the net income and loss of the subsidiaries for 1961.

All intercompany obligations are noninterest-bearing.

Prepare consolidated working papers.

Problem 19-8. Parent Company owns 94% of the stock of Subsidiary Company, which it acquired on January 2, 1955, when the subsidiary's retained earnings amounted to $30,000. The investment is being carried at cost.

Condensed trial balance data are presented below. Column (a) assumes that the subsidiary issued a stock dividend of $25,000 par value on December 31, 1958. Column (b) assumes that the subsidiary issued a stock dividend of $50,000 par value on December 31, 1958.

Condensed Trial Balances—December 31, 1961

	Parent Company	(a) Subsidiary Company	(b) Subsidiary Company
Sundry assets	620,000	200,000	200,000
Investment in subsidiary—cost	130,000		
Cost of sales and expenses	720,000	390,000	390,000
Dividends	50,000		
	1,520,000	590,000	590,000
Sales	800,000	400,000	400,000
Liabilities	100,000	25,000	25,000
Capital stock	500,000	125,000	150,000
Retained earnings	120,000	40,000	15,000
	1,520,000	590,000	590,000

Prepare full consolidated working papers for case (a). Prepare statement of retained earnings and balance sheet consolidated working papers for case (b).

Problem 19-9. Prepare consolidated working papers from the data presented below.

Trial Balances
December 31, 1961

Debits	Master Company	Servant Company
Cash	34,650	38,350
Accounts receivable:		
Master Company		8,500
Trade	65,000	55,000
Notes receivable—Master Company		15,000
Inventories	68,000	35,000
Investment in stock of Servant Company (80%)	93,200	
Furniture and fixtures—less depreciation	11,000	3,000
Purchases	400,000	245,000
Expenses	75,000	56,000
Dividends:		
Master Company	12,000	
Servant Company		6,000
	758,850	461,850
Credits		
Accounts payable:		
Servant Company	8,500	
Other	18,000	32,600
Notes payable	15,000	
Capital stock:		
Master Company	150,000	
Servant Company		100,000
Retained earnings—December 31, 1960:		
Master Company	42,550	
Servant Company		29,250
Sales	500,000	300,000
Management fee charged to Servant Company	20,000	
Dividends from Servant Company	4,800	
	758,850	461,850
Inventories—December 31, 1961	\$ 71,500	\$ 28,000
Intercompany sales—\$35,000.		

The investment in the subsidiary was made on December 31, 1956. The investment was acquired for book value.

The T-account below summarizes the changes in the subsidiary's retained earnings since December 31, 1956.

Retained Earnings

12/31/57	Dividend	5,000	12/31/56	Balance	20,000
12/31/58	Dividend	2,500	12/31/57	Net income	3,000
12/31/59	Dividend	5,000	12/31/58	Net income	1,000
12/31/60	Dividend	5,000	12/31/59	Net income	9,750
			12/31/60	Net income	13,000

Problem 19-10. Three cases are presented on the opposite page. Prepare partial consolidated working papers for each case to show the elimination of the investment account and how each item given would be eliminated or extended in the working papers.

	Case A	Case B	Case C
Investment in subsidiary	$112,500	$156,600	$115,000
Dividends from subsidiary	4,500		6,000
Subsidiary income		8,100	
Retained earnings—beginning of year:			
Parent	80,000	80,000	80,000
Subsidiary	70,000	70,000	40,000
Dividends:			
Parent	10,000	10,000	10,000
Subsidiary	5,000	5,000	7,500
Capital stock:			
Parent	200,000	200,000	200,000
Subsidiary	100,000	100,000	150,000

Additional information:

Case A:
The parent purchased its interest in the subsidiary for book value when the subsidiary's stockholders' equity amounted to $140,000. During the first two years after making the investment, the subsidiary lost $15,000 and paid no dividends.

Case B: Concerning the subsidiary, same facts as in Case A.

Case C:
Parent purchased its interest in the subsidiary when the subsidiary's stockholders' equity was composed of $100,000 of capital stock and $40,000 of retained earnings. Subsequently, the subsidiary capitalized a portion of its retained earnings.

Problem 19-11. Highland Company acquired 80% of the capital stock of Midland Company on June 30, 1957, at a cost of $87,600. The condensed balance sheet of Midland Company as of the date of acquisition is presented below.

MIDLAND COMPANY
Condensed Balance Sheet
June 30, 1957

Assets	$123,500	Accounts payable	$ 14,000
		Dividends payable	2,500
		Capital stock	50,000
		Retained earnings	57,000
	$123,500		$123,500

As of June 30, 1959, the directors of Midland Company authorized a 100% stock dividend. The accountant for Highland Company considered the extra shares to be income, and as a consequence doubled the carrying value of the investment.

The credits made to the Dividends Received account on the books of Highland Company, covering the period since the acquisition of its investment in the subsidiary, are listed below.

Date	Amount
July 15, 1957	$2,000
July 15, 1958	2,000
July 15, 1959	2,000
July 15, 1960	4,800

The June 30, 1961 trial balances of the companies are presented below.

Trial Balances—June 30, 1961

	Highland Company	Midland Company
Debits		
Cash	16,100	7,000
Receivables	20,400	12,800
Inventories—June 30, 1960	40,600	22,400
Investment in Midland Company	175,200	
Fixed assets—net	170,800	96,300
Purchases	386,400	204,000
Expenses	71,200	62,200
Dividends	10,000	6,000
	890,700	410,700
Credits		
Accounts payable	28,350	10,200
Dividends payable		6,000
Capital stock	200,000	100,000
Retained earnings	185,550	14,500
Sales	472,000	280,000
Dividends received	4,800	
	890,700	410,700
Inventories—June 30, 1961	$ 44,800	$ 26,600

Prepare consolidated working papers.

Problem 19-12. At the end of 1957, when Grand Company purchased its 95% interest in Mound Company for $268,100, the stockholders' equity of the subsidiary was as follows:

Capital stock—$25 par value	$250,000
Retained earnings	30,000

Shortly after the acquisition, a business recession developed and the subsidiary's operations were adversely affected. Net losses for 1958 and 1959 amounted to $80,000, and the parent company wrote its investment down by 95% of that amount. During the recession period, the subsidiary continued to pay dividends at a rate of 4% per annum.

As of January 2, 1960, the par value of the capital stock of Mound Company was reduced to $10 per share, and the following entry was recorded in the subsidiary's books:

Capital stock, $25 par value	250,000	
Capital stock, $10 par value		100,000
Retained earnings (to eliminate deficit)		70,000
Paid-in surplus		80,000

The years 1960 and 1961 have been profitable.

The trial balances of the two companies are on the following page.

Intercompany sales of $36,000 were made by Mound Company.

Grand Company charges Mound Company rent. A base charge of $400 a month is made, but the total annual charge is to be 4% of the gross sales for the year, exclusive of intercompany sales. The subsidiary has made no entry for December, pending the determination of the adjusted annual amount.

The parent also charges the subsidiary a management fee of $1,000 per month. The subsidiary has not made the December entry.

Prepare consolidated working papers.

Trial Balances
December 31, 1961

Debits	Grand Company	Mound Company
Cash	34,520	61,450
Accounts receivable:		
Grand Company		7,850
Others	32,900	57,200
Accrued bond interest receivable		500
Inventories—December 31, 1960	75,000	60,000
Investment in stock of Mound Company	192,100	
Investment in bonds of Grand Company—at par and cost		20,000
Land	10,000	
Buildings	90,000	
Furniture and fixtures	5,000	3,000
Purchases	252,600	125,000
Freight in	1,160	850
Rent		4,400
Advertising	12,300	6,250
Salesmen's salaries	18,000	12,000
Office salaries	3,000	
Depreciation—Buildings	4,500	
Depreciation—Furniture and fixtures	500	300
Management fee		11,000
Bond interest expense	2,500	
Dividends	16,000	8,000
	750,080	377,800
Credits		
Accounts payable:		
Mound Company	6,450	
Others	21,860	7,200
Accrued bond interest payable	1,250	
Bonds payable	50,000	
Allowance for bad debts	2,000	1,300
Accumulated depreciation:		
Buildings	13,500	
Furniture and fixtures	1,500	900
Capital stock	200,000	100,000
Paid-in surplus		80,000
Retained earnings	112,745	12,000
Returned purchases	1,375	400
Sales	315,000	175,000
Rent income	4,800	
Management income	12,000	
Interest income		1,000
Dividend income	7,600	
	750,080	377,800
Inventories—December 31, 1961	$ 72,000	$ 58,000

Assignment Material for Chapter 20

Questions

Question 20-1. Why may it be incorrect to show the entire excess of cost over book value as goodwill?

Question 20-2. Is it considered acceptable in consolidated financial statements to show an asset belonging to a subsidiary at a valuation different from the amount shown for the same asset in the subsidiary's financial statements? Explain why such a difference might exist.

Question 20-3. Is it ever acceptable to describe or identify any part of the excess of cost over book value as goodwill? Explain.

Question 20-4. Under what circumstances, if any, is it acceptable not to assign the excess of cost over book value to specific assets?

Question 20-5. Under certain conditions, the existence of an excess of cost over book value may result in one or more adjustments being made in the books of the subsidiary. What are the conditions?

Question 20-6. When some portion of the excess of cost over book value is assigned to depreciable assets, does this amount remain unchanged in future consolidated financial statements? Explain your answer.

Question 20-7. Is it customary to adjust the amount shown for minority interest because the parent corporation paid an excess of cost over book value for its investment?

Question 20-8. Describe the traditional treatment of an excess of book value over cost. Briefly evaluate the traditional treatment.

Question 20-9. Assume that, at the date of preparing consolidated financial statements, the subsidiary has a deficit. Should the minority interest be reduced on account of the deficit? Discuss.

Problems

Problem 20-1. The financial statements of a parent company and its subsidiary are presented below and on page 727. When the parent company acquired its 90% interest several years ago, it paid the former stockholders of Company *S* $25,000 in cash and gave interest-bearing notes amounting to $35,300 for the balance of the purchase price.

COMPANY P
Income Statement
For the Year Ended December 31, 1961

Sales	$150,000
Cost of goods sold	117,000
Gross profit on sales	$ 33,000
Expenses	20,000
Net operating income	$ 13,000
Add subsidiary income	9,900
Net income	$ 22,900

COMPANY P
Statement of Retained Earnings
For the Year Ended December 31, 1961

Balance—December 31, 1960	$ 58,500
Add net income	22,900
Total	$ 81,400
Deduct dividends	6,000
Balance—December 31, 1961	$ 75,400

COMPANY P
Balance Sheet
December 31, 1961

Assets		Liabilities and Stockholders' Equity		
Cash	$ 44,400	Accounts payable		$ 25,000
Accounts receivable—net	54,000			
Inventory	30,000	Capital stock	$100,000	
Investment in Company *S*	72,000	Retained earnings	75,400	175,400
	$200,400			$200,400

COMPANY S
Income Statement
For the Year Ended December 31, 1961

Sales	$120,000
Cost of goods sold	97,000
Gross profit on sales	$ 23,000
Expenses	12,000
Net income	$ 11,000

COMPANY S
Statement of Retained Earnings
For the Year Ended December 31, 1961

Balance—December 31, 1960	$ 22,000
Add net income	11,000
Total	$ 33,000
Deduct dividends	3,000
Balance—December 31, 1961	$ 30,000

COMPANY S
Balance Sheet
December 31, 1961

Assets		Liabilities and Stockholders' Equity		
Cash	$31,000	Accounts payable		$15,000
Accounts receivable—net	45,000			
Inventory	19,000	Capital stock	$50,000	
		Retained earnings	30,000	80,000
	$95,000			$95,000

During 1961, Company *P* made sales of $4,000 to Company *S*. During the same period, Company *S* made sales of $5,000 to Company *P*. At year end, *P* owed *S* $1,000 on such sales, and *S* owed *P* $2,500.

Prepare consolidated working papers in statement form.

Problem 20-2. The trial balances of a parent and its 100%-owned subsidiary are on page 728. The investment was acquired at the beginning of 1961.

Trial Balances
December 31, 1961

Debits	Speed Company	Drag Company
Cash	37,000	22,000
Accounts receivable—net	24,000	42,400
Advances to subsidiary	15,000	
Inventory	36,000	43,300
Investment in Drag Company	111,650	
Equipment	64,000	40,000
Dividends	9,000	3,600
Purchases	220,000	137,500
Depreciation expense	7,680	4,800
All other expenses	97,320	85,000
	621,650	378,600
Credits		
Accounts payable	32,375	8,250
Advances from parent		15,000
Accumulated depreciation	21,300	18,900
Capital stock	150,000	90,000
Retained earnings	64,375	14,450
Sales, including intercompany sales of $20,000	350,000	232,000
Dividends from subsidiary	3,600	
	621,650	378,600
Inventory—December 31, 1961	$ 33,700	$ 42,900

The advances are noninterest bearing.

The excess of cost over book value was attributable to a belief on the part of the parent company that a portion of the equipment of the subsidiary was worth more than its carrying value. The equipment thus undervalued in terms of market values had a remaining useful life of six years when the parent acquired its interest in the subsidiary.

Required:

Consolidated working papers.
Consolidated balance sheet.

Problem 20-3. This is a continuation of Problem 20-2. It is assumed that it is one year later. The background information supplied in Problem 20-2 is applicable to this problem.

Trial Balances
December 31, 1962

Debits	Speed Company	Drag Company
Cash	45,430	30,000
Accounts receivable—net	40,000	39,900
Advances to subsidiary	8,000	
Inventory	33,700	42,900
Investment in Drag Company	111,650	
Equipment	68,000	40,000
Dividends	9,000	4,500
Purchases	235,000	140,000
Depreciation expense	8,160	4,800
All other expenses	103,200	86,000
	662,140	388,100

Credits	Speed Company	Drag Company
Accounts payable	26,505	11,250
Advances from parent		8,000
Accumulated depreciation	29,460	23,700
Capital stock	150,000	90,000
Retained earnings	81,675	15,150
Sales, including intercompany sales of $22,000	370,000	240,000
Dividends from subsidiary	4,500	
	662,140	388,100

Additional information:

	Speed Company	Drag Company
Inventory—December 31, 1962	$ 31,300	$ 43,100

Required:

Consolidated working papers.
Consolidated income statement.

Problem 20-4. Three cases are presented below. Prepare partial consolidated working papers for each case to show the allocation of the "excess" and how each item given would be eliminated or extended in the working papers. You may omit explanations, but key your adjustments and eliminations.

	Case A	Case B	Case C
Investment in subsidiary—cost	$180,000	$140,000	$200,000
Per cent of interest	90%	80%	100%
Date acquired	12/31/61	12/31/61	12/31/60
Balance sheet date	Same	Same	12/31/61
Retained earnings:			
Parent	$110,000	$110,000	$110,000
Subsidiary—at acquisition	80,000	80,000	80,000
Depreciation expense:			
Buildings:			
Parent			10,000
Subsidiary			8,000
Equipment:			
Parent			40,000
Subsidiary			10,000
Dividends:			
Parent			-0-
Subsidiary			-0-
Capital stock:			
Parent	200,000	200,000	200,000
Subsidiary	100,000	100,000	100,000

Additional information as of December 31, 1961—applicable to all cases:

	Parent		Subsidiary	
Land	$ 35,000		$30,000	
Buildings (Depreciation rate—10%)	100,000		80,000	
Accumulated depreciation—Buildings		$30,000		$16,000
Equipment (Depreciation rate—20%)	200,000		50,000	
Accumulated depreciation—Equipment		80,000		20,000

The parent company based the price paid for its investment on a belief that valuations shown on the following page applicable to the subsidiary's accounts were justified.

	Case A	Case B	Case C
Land	$42,000	$28,000	$34,000
Buildings	90,000	80,000	80,000
Accumulated depreciation—Buildings	18,000	16,000	8,000
Equipment	50,000	45,000	70,000
Accumulated depreciation—Equipment	20,000	18,000	14,000

Assume that there were no fixed asset acquisitions or disposals in Case C.

Problem 20-5. Prepare a schedule showing the acquisition adjustment and any other required adjustments for the years 1960 through 1964 that would appear in consolidated working papers as a result of the following allocation of the excess of cost over book value.

Excess of cost over book value as of December 31, 1960, the date of acquisition of the parent's 100% interest in the subsidiary	$30,000
Allocated to:	
Land	$ 4,000
Building	40,000
Accumulated depreciation—Building	14,000

Balances in selected accounts of the subsidiary:

	December 31,				
	1960	1961	1962	1963	1964
Retained earnings:					
Beginning of year	$ 58,000	$ 64,000	$ 68,000	$ 71,000	$ 70,000
Land	40,000	40,000	40,000	40,000	40,000
Building	200,000	200,000	200,000	200,000	200,000
Accumulated depreciation—Building	70,000	80,000	90,000	100,000	110,000

Problem 20-6. Summit Company paid $160,000 for all of the outstanding stock of Dale Corporation. The purchase was made as of December 31, 1960. The December 31, 1960 balance sheet of Dale Corporation showed intangible assets of $20,000 and stockholders' equity of $180,000. Summit Company considers the intangibles to be worthless, which is the reason for the excess of book value over cost. Commencing with 1961, Dale Corporation adopts a policy of amortizing its intangibles with an annual charge to expense of $5,000.

The financial statements of the separate companies report the following:

	Retained Earnings	
December 31,	Summit Company	Dale Corporation
1960	$35,000	$30,000
1961	37,000	33,000
1962	43,000	38,000
1963	38,000	45,000
1964	46,000	46,000
1965	50,000	50,000

	Net Income	
Year	Summit	Dale
1961	$ 9,000	$ 2,000
1962	7,000	3,000
1963	2,000	5,000
1964	11,000	4,000
1965 (loss*)	3,000*	8,000

Make the following computations:

Consolidated retained earnings as of December 31, 1961, 1963, and 1965.
Consolidated net income for the years 1961, 1963, and 1965.

(a) Assuming that the investment in the subsidiary is carried at cost.
(b) Assuming that the parent company uses the equity method.

Problem 20-7. Commonwealth Company purchased a 75% interest in Province Company as of December 31, 1959. At that time the stockholders' equity of the subsidiary amounted to $260,000, $60,000 of which was retained earnings.

The parent paid more than book value for its interest because of the following valuation differences:

	Per Subsidiary's Books	Estimated Market Values
Land (being held for future use).........	$ 30,000	$70,000
Building.............................	100,000	80,000
Accumulated depreciation—Building.....	80,000	64,000

The amount of the excess was determined by the above differences.

The building will become fully depreciated by the end of 1963. At that time the building will be torn down and a modern building constructed in its place.

Prepare a schedule showing the acquisition adjustment and any other required adjustments that would appear in the consolidated working papers for the years 1960, 1962, and 1965.

Selected subsidiary account balances:

	December 31,		
	1960	1962	1965
Retained earnings—beginning of year......	$ 60,000	$ 82,000	$100,000
Land.................................	30,000	30,000	30,000
Building (Depreciation rate—5%).........	100,000	100,000	250,000
Accumulated depreciation—Building.......	85,000	95,000	25,000

Problem 20-8. Eagle Company and its subsidiary prepared the following statements.

Income Statements
For the Year Ended December 31, 1961

	Eagle Company	Sparrow Company
Sales..................................	$350,000	$250,000
Cost of goods sold.....................	225,000	155,000
Gross profit on sales..................	$125,000	$ 95,000
Expenses:		
Selling expenses, including depreciation on equipment..............................	$ 48,000	$ 36,000
General expenses, including depreciation on building..............................	63,700	44,000
Total expenses.....................	$111,700	$ 80,000
Net operating income...................	$ 13,300	$ 15,000
Add:		
Rent income........................	2,400	
Subsidiary income..................	13,500	
Net income.............................	$ 29,200	$ 15,000

Statements of Retained Earnings
For the Year Ended December 31, 1961

	Eagle Company	Sparrow Company
Balances—December 31, 1960	$ 58,000	$ 31,300
Net income	29,200	15,000
Total	$ 87,200	$ 46,300
Dividends	12,500	4,800
Balances—December 31, 1961	$ 74,700	$ 41,500

Balance Sheets
December 31, 1961

Assets	Eagle Company	Sparrow Company
Cash	$ 21,400	$ 14,200
Accounts receivable—net	35,770	27,000
Inventory	38,850	33,300
Land	30,000	
Building	120,000	
Accumulated depreciation—Building	48,000*	
Equipment	90,000	81,400
Accumulated depreciation—Equipment	32,300*	24,600*
Investment in Sparrow Company	127,350	
	$383,070	$131,300
Liabilities and Stockholders' Equity		
Accounts payable	$ 58,370	$ 9,800
Capital stock	250,000	80,000
Retained earnings	74,700	41,500
	$383,070	$131,300

* Deduction.

The sales facilities used by Sparrow Company are rented from Eagle Company for $2,400 per annum.

The parent acquired the subsidiary stock interest as of December 31, 1958. One-half of the excess of cost over book value is assignable to a portion of the equipment having a remaining useful life of five years as of December 31, 1958. The balance of the excess is attributable to goodwill.

Prepare consolidated working papers in statement form for 1961.

Problem 20-9. Data from the financial statements of a parent and subsidiary prepared at the close of 1961 are submitted.

	Dome Company	Roof Company
INCOME STATEMENT:		
Sales	$500,000	$400,000
Cost of goods sold	375,000	300,000
Rent expense		1,500
Salaries and commissions	50,000	40,000
Advertising	10,000	8,000
Other expenses	45,000	42,000
Rent income—Subsidiary	2,000	
Subsidiary income	8,500	
STATEMENT OF RETAINED EARNINGS:		
Retained earnings—December 31, 1960	58,000	63,000
Dividends	10,000	5,000

	Dome Company	Roof Company
BALANCE SHEET:		
Cash	11,000	7,500
Accounts receivable	19,000	23,000
Dome Company		5,700
Inventory	35,200	42,000
Real estate	6,000	8,000
Building	44,000	60,000
Accumulated depreciation—Building	21,000	9,000
Equipment	34,000	50,000
Accumulated depreciation—Equipment	17,000	12,000
Intangibles		20,000
Investment in Roof Company	191,500	
Accounts payable	21,300	18,700
Roof Company	2,900	
Capital stock	200,000	100,000
Paid-in surplus		10,000

The subsidiary rents some storage facilities from the parent company for $500 per quarter. The subsidiary charges the rent account when it pays the rent. The parent company accrues the rent each quarter as it is earned.

During 1961, the subsidiary sold $15,000 worth of merchandise to the parent company. The last sale, in the amount of $800, was made on December 31, 1961, and the merchandise in transit was not given recognition by the parent company when its financial statements were prepared.

On December 30, 1961, the parent company mailed a $1,500 check to the subsidiary in partial settlement of the intercompany account. The check did not reach the subsidiary before it closed its accounts and prepared its financial statements.

When the parent purchased its 100% interest in the subsidiary, it paid $9,000 more than book value for the stock. The excess was a net amount attributable to the fact that the parent company believed the subsidiary's real estate holdings were worth $15,000 more than their carrying value and that $6,000 of the subsidiary's intangibles were worthless. Two years ago, in compliance with a request by the parent, the subsidiary wrote off such intangibles by a charge to Retained Earnings.

In each year since acquisition, the parent company has shown in its income statement the net income reported by the subsidiary for that year.

Required:

Consolidated statement working papers in statement form, with the use of a preliminary work sheet.

Problem 20-10. The following data are taken from the June 30, 1961 trial balances of a parent company and its 80%-owned subsidiary.

	White Company		Black Company	
Cash	32,100		38,000	
Accounts receivable—net	46,100		42,000	
Inventory	41,440		37,000	
Equipment	82,000		48,000	
Accumulated depreciation		54,700		33,600
Investment in Black Company—cost	76,160			
Accounts payable		18,300		21,400
Dividends payable				3,000
Capital stock		150,000		100,000

	White Company		Black Company	
Retained earnings		48,600		4,200
Dividends declared (3% semiannually)	9,000		6,000	
Sales		400,000		300,000
Cost of goods sold	270,000		200,000	
Rent	3,600		2,400	
Management fee (Charged by parent)			4,000	
Depreciation expense (rate: 10%)	8,200		4,800	
Salaries and commissions	58,000		45,000	
Other expenses	51,400		35,000	
Income from investment in subsidiary		6,400		
	678,000	678,000	462,200	462,200

The cost of the investment in Black Company was less than book value by $8,640. The difference, or excess, was attributable to the following:

	Per Books	Estimated Value
Equipment	$48,000	$30,000
Accumulated depreciation	19,200	12,000

There have been no additions to or disposals of equipment since the parent purchased its interest in the subsidiary.

Prepare consolidated working papers in statement form.

Problem 20-11. Circle Manufacturing Company on January 1, 1960, acquired 90% of the capital stock of Dash Company and on January 1, 1962, 80% of the capital stock of Dot Company. Following are the trial balances of the companies as of December 31, 1962:

Debits	Circle Manufacturing Company	Dash Company	Dot Company
Cash	60,500	8,000	28,500
Accounts receivable—Customers	132,500	87,000	50,000
Current account—Dash Company	30,000		
Current account—Dot Company	7,500	6,000	
Inventories:			
Raw materials	175,000	30,000	32,000
In process	140,000	20,000	20,000
Finished goods	130,000	25,000	15,000
Prepaid expenses	5,000	4,000	2,000
Investments:			
Dash Company stock (90%)	200,000		
Dot Company stock (80%)	40,000		
Bonds—Dot Company		10,000	
Land	20,000	5,000	10,000
Buildings	50,000	40,000	20,000
Machinery and equipment	225,000	180,000	100,000
Cost of goods manufactured and sold	2,166,500	991,600	456,500
Sales returns and allowances	10,000	4,000	2,000
Selling expense	100,000	60,000	25,000
General and administrative expense	75,000	40,000	25,000
Bond interest			6,000
Dividends paid		20,000	5,000
	3,567,000	1,530,600	797,000

Credits	Circle Manufacturing Company	Dash Company	Dot Company
Accounts payable	75,000	70,000	70,000
Current account—Circle Manufacturing Company		10,000	7,500
Current account—Dash Company			4,000
Accrued accounts	154,500	46,500	9,500
Bonds payable			100,000
Allowance for bad debts	2,500	1,500	1,000
Accumulated depreciation	75,000	60,000	45,000
Sales	2,600,000	1,120,000	500,000
Interest income		600	
Rent of sales display equipment to Dot Company		2,000	
Capital stock	500,000	200,000	50,000
Retained earnings (December 31, 1961)	160,000	20,000	10,000
	3,567,000	1,530,600	797,000

During the year 1962 Dot Company sold to Circle Manufacturing Company \$150,000 worth of goods and to Dash Company, \$100,000. Dash Company sold to Circle Manufacturing Company goods to the amount of \$400,000.

The rental charge on sales display equipment rented from Dash Company has not been recorded by Dot Company. Also, there is \$20,000 of cash in transit from Circle Manufacturing Company to Dash Company to bolster the latter's cash position.

The excess of cost over book value in connection with the investment in Dash Company was considered to be 90% of the value of a patent on a special packaging device held by Dash Company which had a remaining legal life of five years as of January 1, 1960. Dash Company had been conservative and fully amortized the patent to selling expense in ten years.

The excess of book value over cost in connection with the investment in Dot Company was attributable to the fact that the parent company considered the January 1, 1962 in-process inventory to be overvalued. The inventory was completed and sold during 1962.

Each prior year, the parent company had taken up in the investment account its share of the subsidiary's earnings. Such entry had not yet been made for 1962. All dividends received, including those received from both companies in 1962, had been credited to the respective investment accounts.

Depreciation and prepaid and accrued accounts have been properly accounted for. Federal taxes on income may be ignored. Allowances for bad debts are considered sufficient.

Prepare consolidated working papers in statement form, making use of a preliminary work sheet.

Assignment Material for Chapter 21

Questions

Question 21-1. What is the general rule regarding the per cent of intercompany profit to be eliminated?

Question 21-2. Describe the procedure followed in consolidated working papers to eliminate intercompany profit from both the beginning and ending inventories.

Question 21-3. In what way does the existence of a minority interest affect the elimination of intercompany profit?

Question 21-4. Should the amount of the intercompany profit to be eliminated be based on the gross profit or the net profit of the selling affiliate?

Question 21-5. Company *P* owns 90% of the stock of Company *S* and 85% of the stock of Company *T*. In the computation of the deduction from inventories for intercompany profit, what per cent would you apply to intercompany profits:

(a) In inventory of Company *S* on goods sold to it by Company *P*?
(b) In inventory of Company *T* on goods sold to it by Company *P*?
(c) In inventory of Company *P* on goods sold to it by Company *S*?
(d) In inventory of Company *P* on goods sold to it by Company *T*?
(e) In inventory of Company *S* on goods sold to it by Company *T*?
(f) In inventory of Company *T* on goods sold to it by Company *S*?

For each of the above cases, what per cent would you use to determine the amount of the change in consolidated net income as a result of intercompany profits?

Question 21-6. If goods were sold by Company *S* to Company *P* at a profit before *S* became a subsidiary of *P*, and some of these goods remain in the inventory of Company *P* after affiliation, should an intercompany profit deduction be made for purposes of determining the inventory valuation to be shown in the consolidated balance sheet?

Would your answer be the same if the goods were sold to Company *S* by Company *P* before affiliation and remained in the inventory of Company *S* after affiliation?

Question 21-7. Is any consideration given to intercompany sales at a loss if all or a portion of the goods remain in the ending inventory of the purchasing affiliate?

Question 21-8. Describe a procedure that may be used to make allowance for the fact that income taxes have been paid on profits arising from the sale of goods remaining at the end of the taxable year in the possession of a company within the consolidated group.

Question 21-9. Describe what is known as a "connecting affiliate."

Problems

Problem 21-1. Prepare partial consolidated working papers to show the determination of consolidated net income, consolidated retained earnings, and any required eliminations for intercompany profit in inventories.

	Parent Company	Subsidiary Company
Beginning inventory	$ 32,000	$ 17,600
Ending inventory	34,800	14,800
Sales	410,000	280,000
Purchases	243,000	179,200
Expenses	143,400	89,000
Retained earnings—beginning of year	93,000	36,000

(a) Parent owns 100% of the subsidiary, having organized the company several years ago. During the current year, the subsidiary made sales of $40,000 to the parent; all of the subsidiary's sales were made at the same rate of gross profit. Twenty per cent of the goods thus sold remain in the parent's ending inventory.

There was intercompany profit of $1,800 in the parent's beginning inventory.

(b) Same facts as (a) above, except that the parent acquired only a 90% interest in the subsidiary, and that the intercompany profit in the parent's beginning inventory amounted to $3,000.

Problem 21-2. The trial balances of a parent and its 80%-owned subsidiary are presented below. The investment was acquired at the beginning of the current year, 1961.

Trial Balances
December 31, 1961

Debits	Solid Company	Hollow Company
Cash	25,000	15,000
Accounts receivable—net	55,300	22,200
Inventory	56,400	30,000
Investment in Hollow Company	129,240	
Other assets	180,000	100,000
Dividends	9,000	4,500
Purchases	272,000	135,000
Expenses	149,000	82,000
	875,940	388,700
Credits		
Accounts payable	19,320	8,400
Capital stock	300,000	90,000
Retained earnings	125,020	75,300
Sales	428,000	215,000
Dividends from subsidiary	3,600	
	875,940	388,700

Additional information:

Inventory—December 31, 1961	$ 58,100	$ 33,400
Intercompany sales by Hollow Company		24,000
Intercompany profit in ending inventory	700	

The excess of book value over cost was attributable to a belief on the part of Solid Company that the December 31, 1960 inventory of Hollow Company was overvalued.

Required:

Consolidated working papers.

Problem 21-3. This is a continuation of Problem 21-2. It is assumed that it is one year later. The background information supplied in Problem 21-2 is applicable to this problem.

Trial Balances
December 31, 1962

	Solid Company	Hollow Company
Debits		
Cash	11,100	24,200
Accounts receivable—net	32,500	20,700
Inventory	55,000	31,000
Investment in Hollow Company (80%)	129,240	
Other assets	225,000	98,000
Dividends	9,000	4,500
Cost of goods sold	280,000	133,000
Expenses	147,160	79,600
	889,000	391,000
Credits		
Accounts payable	22,080	6,800
Capital stock	300,000	90,000
Retained earnings	128,320	72,200
Sales	435,000	222,000
Dividends from subsidiary	3,600	
	889,000	391,000

Intercompany sales by Hollow Company		$ 26,000
Intercompany sales by Solid Company	$ 17,000	
Intercompany profit in ending inventory:		
Hollow Company		300
Solid Company	500	

As of January 1, 1962, both companies adopted a perpetual inventory system. Prepare consolidated working papers in statement form.

Problem 21-4. South Company owns 90% of the capital stock of West Company, which, in turn, owns 60% of the capital stock of North Corporation and 80% of the capital stock of East, Incorporated. For the year ended September 30, 1961, the net incomes of the affiliated companies were:

South Company	$148,500
West Company	81,600
North Corporation	90,400
East, Incorporated	4,100*

* Loss.

None of the affiliated companies paid any dividends during the year ended September 30, 1961.

Prepare a schedule apportioning the net income of the affiliated companies for the year ended September 30, 1961, to consolidated net income and minority interests.

Problem 21-5. The following affiliation structure has prevailed for several years.

Ace Company:
- 90% of King Company
- 80% of Queen Company
- 10% of Jack Company

Queen Company:
- 75% of Jack Company

The equity method of accounting is used in connection with the above investments in affiliated companies, including the 10% interest in Jack Company held by Ace Company.

You may assume that the equity method has been properly followed, except, of course, that the separate companies have given no recognition to intercompany profit in inventories.

Statements of retained earnings for the several companies are presented below in comparative form.

Statements of Retained Earnings
For the Year Ended December 31, 1961

	Ace Company	King Company	Queen Company	Jack Company
Balance—December 31, 1960	$200,000	$ 80,000	$70,000	$60,000
Net income	90,000	25,000	20,000	10,000
Total	$290,000	$105,000	$90,000	$70,000
Dividends	25,000	8,000	8,000	6,000
Balance—December 31, 1961	$265,000	$ 97,000	$82,000	$64,000

A schedule showing the intercompany profits in the beginning and ending inventories is presented below:

Amount of Intercompany Profit	In Inventory Owned By	Company Making Sale
December 31, 1960:		
$ 800	Ace	King
1,000	King	Queen
December 31, 1961:		
$1,200	Ace	King
400	Queen	Jack

Prepare a schedule showing the computation of consolidated net income for 1961.

Problem 21-6. From the following data prepare the Cost of Goods Manufactured section of consolidated working papers for Parma Company and its 90%-owned subsidiary, Sebring Company, and the latter's 80%-owned subsidiary, River Company.

	Parma Company	Sebring Company	River Company
Inventories—December 31, 1960:			
Materials	$ 48,390	$ 36,142	$28,110
Goods in process	106,380	72,370	14,800
Inventories—December 31, 1961:			
Materials	47,240	32,060	24,500
Goods in process	93,075	78,780	16,415
Purchases:			
From Parma Company		22,340	16,300
From Sebring Company	82,820		
From River Company	16,400	8,320	
From others	212,840	160,134	78,450
Direct labor	218,455	120,075	76,354
Manufacturing expense	163,217	108,546	56,397
Manufacturing expense includes charges made by Parma Company for rent		20,000	12,000

	Parma Company	Sebring Company	River Company
Intercompany profits in inventories:			
On December 31, 1960:			
In materials:			
Made by Parma Company		1,200	800
Made by Sebring Company	4,200		
Made by River Company	700	400	
In goods in process:			
Made by Parma Company		1,400	1,100
Made by Sebring Company	3,600		
Made by River Company	800	600	
On December 31, 1961:			
In materials:			
Made by Parma Company		1,400	700
Made by Sebring Company	3,700		
Made by River Company	800	500	
In goods in process:			
Made by Parma Company		1,600	900
Made by Sebring Company	4,100		
Made by River Company	1,000	400	

Problem 21-7. Intercompany stockholdings in an affiliated group during the year ended December 31, 1961, were as follows:

Mason Corporation:
85% of Haste Company
95% of The Bancroft Company

Haste Company:
70% of Channing, Incorporated

The Bancroft Company:
80% of Durant Corporation

Each company maintains its investment in affiliated companies at cost.

The net incomes of the affiliated companies for the year ended December 31, 1961 (including dividends from affiliates), are set forth below. The dividends declared and paid by the companies during 1961 are shown in a separate column.

	Net Income	Dividends
Mason Corporation	$51,900	$20,000
Haste Company	26,500	10,000
Channing, Incorporated	13,400	15,000
The Bancroft Company	28,800	None
Durant Corporation	9,400	6,000

Intercompany profits in the December 31, 1961 inventories of the affiliated companies were:

Selling Corporation	Profit Made by Selling Corporation
Mason Corporation	$3,200
The Bancroft Company	2,000
Channing, Incorporated	800

Required:

A schedule showing the apportionment of net income to consolidated net income and minority interests.

Problem 21-8. Company Z owns all of the stock of Company A, 90% of the stock of Company B, and 80% of the stock of Company C. The investments are carried at cost. The rates of gross profit on sales were: A, 25%; B, 20%; C, 30%. The income statement of Company A shows that it produced goods during the period costing $120,000, of which 50% was sold to Company C, 30% to outsiders, and 20% is on hand. The income statement of Company C shows goods produced at a cost of $224,000, consisting of the cost of raw materials purchased from Company A of $80,000, from Company B of $5,000, and from outsiders of $105,000 and labor and overhead costs of $34,000. Company C sold 80% of its produced goods, half to outsiders and half to Company Z, and the balance is on hand.

As a result of the purchases from Company C, there was intercompany profit in the inventories of Company Z as follows:

Beginning inventory	$800
Ending inventory	500

There was no intercompany profit in the beginning inventories of Companies A, B, and C.

The net incomes reported by the companies for the current year are shown below.

Company	
Z	$30,000
A	15,000
B	12,000
C	10,000

There were intercompany sales during the current year of $213,000. Only Company Z declared and paid dividends during the year; the amount was $8,000.

Compute the consolidated net income for the current year.

Problem 21-9. The following condensed data were taken from the 1962 financial statements of Prime Company and its subsidiaries.

Assets	Prime Company	Choice Company	Quality Company
Cash	$ 30,000	$ 40,000	$ 10,000
Inventories	42,900	31,800	18,500
Investment in Choice Company—at cost:			
90%	240,000		
Investment in Quality Company—at cost:			
85%		100,000	
15%	21,360		
Property, plant, and equipment—net	218,200	71,200	126,500
	$552,460	$243,000	$155,000
Liabilities and Stockholders' Equity			
Accounts payable	$ 41,600	$ 21,400	$ 12,600
Capital stock	400,000	150,000	100,000
Retained earnings	110,860	71,600	42,400
	$552,460	$243,000	$155,000
Sales	$200,000	$150,000	$100,000
Cost of goods sold	$130,000	$ 90,000	$ 60,000
Expenses	60,000	50,500	27,800
Net operating income	$ 10,000	$ 9,500	$ 12,200
Dividends from subsidiary	6,750		
Net income	$ 16,750	$ 9,500	$ 12,200

Prime Company acquired its interest in Choice Company on December 31, 1960, and its investment in Quality Company on December 31, 1962. Choice Company acquired its investment in Quality Company on December 31, 1961.

The retained earnings balances of the affiliated companies on selected dates were:

Date	Prime Company	Choice Company	Quality Company
December 31, 1960	$105,300	$ 90,000	$ 36,400
December 31, 1961	94,110	69,600	30,200

Merchandise acquired from affiliated companies remaining in the December 31, 1962 inventories is tabulated below:

Held By	Purchased From	Price Paid
Prime Company	Choice Company	$1,000
Choice Company	Prime Company	2,000

The December 31, 1961 inventory of Quality Company included some items purchased from Prime Company on which there was an intercompany loss of $300.

Intercompany sales during 1962 amounted to $15,000. Only Choice Company declared and paid dividends during 1962.

Prepare consolidated working papers in statement form.

Problem 21-10. In order to facilitate its production of solid fuels, but mostly to obtain the benefit of valuable patents covering manufacturing processes, Supersonic Company, on January 2, 1961, purchased the entire capital stock of Metro Company for $875,000 and 90% of the capital stock of Ramjet Company for $1,000,000. When the stock interests were acquired, the patents were considered to have economic usefulness for five years, and any premium paid for the stock interests may be assumed to relate to the patents.

The trial balances of the three companies on December 31, 1961, were:

Debits	Supersonic Company	Metro Company	Ramjet Company
Cash	80,000	60,000	70,000
Accounts receivable—Customers	420,000	190,000	380,000
Accounts receivable—Metro Company	25,000		30,000
Inventories—December 31, 1960:			
Materials	150,000	105,000	160,000
Work in process	80,000	70,000	75,000
Finished goods	90,000	65,000	80,000
Investments:			
Supersonic Company bonds (par and cost)		100,000	
Metro Company stock	875,000		
Ramjet Company stock	1,000,000		
Land	250,000	35,000	90,000
Buildings	400,000	100,000	280,000
Machinery and equipment	350,000	165,000	380,000
Patents—less amortization	111,000	50,000	40,000
Purchases	650,000	400,000	510,000
Direct labor	450,000	320,000	370,000
Manufacturing expenses	235,000	210,000	242,500
Selling expenses	70,000	35,000	80,000
Administrative expenses	60,000	30,000	30,000
Dividends paid	150,000	25,000	40,000
	5,446,000	1,960,000	2,857,500

Credits	Supersonic Company	Metro Company	Ramjet Company
Accounts payable—Trade	124,000	165,000	310,000
Accounts payable—Supersonic Company		25,000	
Accounts payable—Ramjet Company		30,000	
Bonds payable	300,000		
Accumulated depreciation	145,000	80,000	150,000
Sales	1,750,000	1,000,000	1,507,500
Dividends received	61,000		
Capital stock	3,000,000	500,000	800,000
Retained earnings—December 31, 1960	66,000	160,000	90,000
	5,446,000	1,960,000	2,857,500

For a number of years, the three companies had traded with each other, and on December 31, 1960 there were included in the materials inventory of Supersonic Company goods purchased from Metro Company valued at $60,000 which cost Metro Company $40,000. Likewise, on that date, the materials inventory of Metro Company included goods purchased from Ramjet Company for $75,000 which cost the latter company $50,000 to produce.

The intercompany sales for the year ended December 31, 1961, were:

	Selling Price	Cost to Produce
Ramjet Company to Metro Company	$200,000	$160,000
Metro Company to Supersonic Company	375,000	300,000

An analysis of the December 31, 1961 inventories revealed the following:

	Materials	Work in Process	Finished Goods
Supersonic Company	$280,000	$95,000	$135,000
Intercompany profit included in above	20,000	5,000	4,000
Metro Company	$175,000	$80,000	$145,000
Intercompany profit included in above	30,000	6,000	5,000
Ramjet Company	$210,000	$85,000	$105,000

On July 1, 1961, Supersonic Company sold to Metro Company $100,000 of first mortgage 5% bonds at par. At the same time, the remainder of the issue, or $200,000, was sold through a broker for $200,000. The bonds mature June 30, 1966. The interest, payable semiannually, had not been paid on December 31, 1961.

Required:

Consolidated working papers.
Consolidated income statement for the year ended December 31, 1961.

Problem 21-11. The balance sheets of three affiliated companies as of December 31, 1962, are presented on the following page.

The investments are shown at cost. Iverson Corporation acquired 90% of the capital stock of Summer Company on December 31, 1961. Summer Company had acquired 85% of the capital stock of Modern Company as of January 1, 1961.

Any excess associated with the investment in Summer Company should be interpreted as a revaluation of the goodwill.

IVERSON CORPORATION
Balance Sheet
December 31, 1962

Assets			Liabilities and Stockholders' Equity		
Cash		$ 12,000	Accounts payable		$ 19,450
Accounts receivable		20,400	Accrued expenses		5,920
Inventories		36,610			
Investment in stock of Summer Company		124,940	Capital stock	$200,000	
Property, plant, and equipment	$128,230		Retained earnings	49,490	249,490
Less accumulated depreciation	47,320	80,910			
		$274,860			$274,860

SUMMER COMPANY
Balance Sheet
December 31, 1962

Assets			Liabilities and Stockholders' Equity		
Cash		$ 15,410	Accounts payable		$ 41,130
Accounts receivable		20,010	Accrued expenses		3,810
Inventories		24,460			
Investment in stock of Modern Company		50,830	Capital stock	$100,000	
			Retained earnings	52,800	152,800
Property, plant, and equipment	$182,940				
Less accumulated depreciation	100,910	82,030			
Goodwill		5,000			
		$197,740			$197,740

MODERN COMPANY
Balance Sheet
December 31, 1962

Assets			Liabilities and Stockholders' Equity		
Cash		$ 16,600	Accounts payable		$ 8,350
Inventories		28,000			
Property, plant, and equipment	$ 78,020		Capital stock	$ 50,000	
			Retained earnings	33,600	83,600
Less accumulated depreciation	30,670	47,350			
		$ 91,950			$ 91,950

Analyses of the Retained Earnings accounts are presented below.

	Summer Company	Modern Company
Balance—December 31, 1960	$29,460	$ 9,800
Net income	13,540	9,400
Total	$43,000	$19,200
Cash dividends	7,000	3,000
Balance—December 31, 1961	$36,000	$16,200
Net income	26,800	20,400
Total	$62,800	$36,600
Cash dividends	10,000	3,000
Balance—December 31, 1962	$52,800	$33,600

The inventories of Iverson Corporation on December 31, 1962, included raw materials acquired from affiliated companies as follows:

Date of Purchase	Purchased From	Purchase Price	Cost to Seller
December 10, 1961	Summer Company	\$3,200	\$2,800
February 25, 1962......	Modern Company	6,200	5,400
October 12, 1962.......	Summer Company	3,400	2,900

Prepare consolidated balance sheet working papers as of December 31, 1962.

Problem 21-12. American Company owns 80% of the stock of Southern Company, 75% of the stock of Mode Company, and 60% of the stock of Provo, Incorporated. Mode Company owns 20% of the stock of Provo, Incorporated. Southern Company owns 25% of the stock of Mode Company and 10% of the stock of Provo, Incorporated.

Provo, Incorporated, produces the basic raw material and sells it to Southern Company at 125% of cost. After further fabrication, Southern Company sells this material to Mode Company at 20% above cost to Southern Company. Mode Company sells much of this material to customers outside the affiliated group, but some is sold to American Company at 10% above total cost to Mode Company. In the case of each of the affiliated companies, the labor and manufacturing expenses combined are equal to the raw material cost, and the profits referred to above are based on this total cost.

The closing inventories of the affiliated companies contain what is raw material to them in the following amounts:

- American Company has raw material purchased from Mode Company for \$21,120.
- Mode Company has raw material purchased from Southern Company for \$48,000.
- Southern Company has raw material purchased from Provo, Incorporated, for \$41,000.

Compute the share of minority interests, by company, in the above intercompany profits residing in the ending inventories.

Assignment Material for Chapter 22

Questions

Question 22-1. Does any portion of the intercompany profit resulting from a sale of a fixed asset to an affiliated company ever become realized?

Question 22-2. Assume that an asset not subject to depreciation or amortization is sold by a 90%-owned subsidiary to the parent company at a price above cost. Will the transaction increase or decrease consolidated net income in the year of sale? Will the transaction increase or decrease consolidated net income in the year following the sale?

Question 22-3. If goods are manufactured with the use of depreciating fixed assets acquired in a transaction involving an intercompany profit, is any adjustment of the inventory valuation required?

Question 22-4. In the computation of consolidated goodwill, or excess of cost over book value, does it make any difference whether the parent acquired its shares in a subsidiary from stockholders or direct from the subsidiary?

Question 22-5. Consider the following fact situation in which Company *P* acquires control of Company *S* through two stock acquisitions:

Date	Cost of Company *S* Stock	Per Cent of Control	Stockholders' Equity of Company *S*
1/1/61	$ 45,000	20%	$200,000
1/1/62	155,000	60	250,000

The accountant for Company *P* claims that no consolidated goodwill, or difference between cost and book value, should appear in the consolidated balance sheet as of December 31, 1962, since the $200,000 invested equals 80 per cent of the subsidiary's stockholders' equity on the date control was achieved.

Do you agree? Give your reasons.

Question 22-6. Describe the alternative methods for the preparation of a consolidated income statement for the year of acquisition when a position of control is achieved during the year.

Question 22-7. Is it acceptable to include in consolidated retained earnings any portion of the retained earnings accumulated prior to the date when control of the subsidiary is obtained?

Question 22-8. In a case in which there is intercompany profit arising from the sale of a fixed asset by a 90%-owned subsidiary, what portion of the intercompany profit is removed from the asset account in the preparation of the consolidated balance sheet?

Problems

Problem 22-1. During 1959, Pepper Company acquired a 75% interest in Ginger Company. In 1960, Pepper Company acquired an 80% interest in Salt Company.

As of December 31, 1961, Ginger Company sold some equipment to Salt

Company for $48,000 and made a profit of $7,200 on the sale. It is believed that the equipment has a useful life of eight years.

Prepare a schedule showing the adjustments and eliminations that would be made in consolidated working papers for the years 1961, 1962, and 1963 as a result of the above sale of equipment. Make use of the relevant data submitted below.

	Company		
	Pepper	Ginger	Salt
December 31, 1961 balances:			
Retained earnings—beginning of year	$100,000	$ 68,000	$ 30,000
Retained earnings—end of year	110,000	74,000	32,000
Profit on sale of equipment		7,200	
Depreciation expense—Equipment	36,000	25,400	13,200
Equipment	300,000	220,000	111,000
Accumulated depreciation—Equipment	108,000	89,000	41,700
December 31, 1962 balances:			
Retained earnings—beginning of year	110,000	74,000	32,000
Retained earnings—end of year	95,000	80,000	37,000
Depreciation expense—Equipment	36,000	27,400	15,600
Equipment	300,000	231,000	113,800
Accumulated depreciation—Equipment	144,000	113,000	54,200
December 31, 1963 balances:			
Depreciation expense—Equipment	38,000	29,300	16,100
Equipment	317,500	240,000	117,100
Accumulated depreciation—Equipment	170,300	134,200	63,500

Problem 22-2. Bailey Company and its subsidiary prepared the following statements.

Income Statements
For the Year Ended December 31, 1962

	Bailey Company	Borst Company
Sales	$700,000	$501,000
Cost of goods sold	447,000	305,000
Gross profit on sales	$253,000	$196,000
Expenses:		
Selling expenses	$ 83,600	$ 71,900
General expenses	114,000	95,900
Total expenses	$197,600	$167,800
Net income from operations	$ 55,400	$ 28,200
Dividend from subsidiary	8,000	
Net income	$ 63,400	$ 28,200

Statements of Retained Earnings
For the Year Ended December 31, 1962

	Bailey Company	Borst Company
Balances—December 31, 1961	$117,500	$ 62,400
Net income	63,400	28,200
Total	$180,900	$ 90,600
Dividends paid	50,000	10,000
Balances—December 31, 1962	$130,900	$ 80,600

Balance Sheets
December 31, 1962

Assets	Bailey Company	Borst Company
Cash	$ 58,434	$ 29,300
Accounts receivable	231,000	34,000
Borst Company	7,500	
Inventory	60,000	76,000
Land and buildings—less depreciation	155,000	
Machinery and equipment—less depreciation	111,000	125,700
Investment in Borst Company (80%)	187,320	
	$810,254	$265,000
Liabilities and Stockholders' Equity		
Accounts payable	$179,354	$ 51,900
Bailey Company		7,500
Capital stock	500,000	125,000
Retained earnings	130,900	80,600
	$810,254	$265,000

The interest in the subsidiary was purchased on June 1, 1962.

In December of 1961, Borst Company signed a contract under which it agreed to make purchases from Bailey Company during 1962 in the amount of $4,000 per month. The agreement was carried out. As a result of the agreement, there is intercompany profit of $500 in the December 31, 1962 inventory.

Prepare consolidated working papers.

Problem 22-3. Grey Corporation carries at cost 95% of the stock of Morton Company, which it acquired by the following purchases:

Date	Per Cent	Purchase Price
January 1, 1961	25%	$140,000
May 1, 1961	15	85,000
December 1, 1961	55	170,000

Morton Company has 20,000 shares of $10 par value stock outstanding; an analysis of its Retained Earnings account for 1961 and 1962 is presented below.

	Debits	Credits
Balance, January 1, 1961		$ 45,000
Dividends, April 1, 1961	$ 16,000	
Dividends, November 1, 1961	16,000	
Net income for 1961		120,000
Dividends, June 1, 1962	193,000	
Net income for 1962		90,000

Assume that the above net income amounts were earned in equal monthly amounts.

Prepare partial consolidated working papers to show the elimination of the investment and related stockholder equity accounts.

Problem 22-4. Prepare consolidated working papers from the data applicable to Sampson Company and its subsidiary.

Neither company declared any dividends during 1961.

The machinery owned by Portage Company was purchased new from Sampson Company, which made a profit of $15,000 on the transaction. The machinery is being depreciated at 5% per year. The transaction occurred when Portage Company was a subsidiary of Sampson Company.

Sampson Company paid book value for its investment in Portage Company.

Balance Sheets
December 31, 1961

Assets	Sampson Company	Portage Company
Cash	$ 70,000	$ 40,000
Accounts receivable	25,000	35,000
Inventories	60,000	60,000
Investment in stock of Portage Company—at cost (88%)	140,800	
Machinery	184,200	60,000
Accumulated depreciation—Machinery	45,000*	10,000*
	$435,000	$185,000
Liabilities and Stockholders' Equity		
Accounts payable	$ 35,000	$ 20,000
Capital stock	300,000	100,000
Retained earnings	100,000	65,000
	$435,000	$185,000

* Deduction.

Income Statements
For the Year Ended December 31, 1961

	Sampson Company	Portage Company
Sales	$300,000	$200,000
Cost of goods sold	210,000	135,000
Gross profit on sales	$ 90,000	$ 65,000
Expenses	82,000	58,000
Net income	$ 8,000	$ 7,000

Problem 22-5. The data below are from the August 31, 1961 balance sheets of a parent and two subsidiaries. The affiliation has existed for ten years. When the investments were made, the parent company considered the excesses of cost over book value to be attributable to undervalued intangibles having a remaining economic usefulness, at that time, of five years.

The parent uses the equity method of accounting for the two investments.

Balance Sheets
August 31, 1961

	Central Company	North Company	South Company
Machinery	$ 175,000	$ 75,000	$160,000
Sundry assets	483,000	353,000	325,000
Investments in subsidiaries:			
North Company (80%)	325,000		
South Company (90%)	400,000		
	$1,383,000	$428,000	$485,000
Accounts payable	$ 40,000	$ 19,500	$ 32,000
Accumulated depreciation—Machinery	60,000	13,500	38,000
Capital stock	1,000,000	200,000	300,000
Retained earnings	283,000	195,000	115,000
	$1,383,000	$428,000	$485,000

Three years ago South Company constructed some machinery for North Company at a cost of $44,000 and billed it to North Company at $55,000. The estimated life of the machinery was 20 years.

Prepare consolidated balance sheet working papers.

Problem 22-6. When Steel Company purchased its 80% interest in Tin Company, the stockholders' equity of the latter company was as follows:

Capital stock	$100,000
Retained earnings	120,000

The investment is being carried at cost.

Several years after the above purchase, Tin Company sold a piece of undeveloped land and a patent to Steel Company for the prices shown below.

	Carrying value—Tin Company	Selling Price to Steel Company
Land	$15,000	$25,000
Patent	18,000	40,000

The patent is being amortized on a straight-line basis by Steel Company.

Selected data from the financial statements of the companies are set forth below.

	Steel Company	Tin Company
From the 1961 statements:		
Net income for 1961	$ 10,000	$ 8,000
Dividends declared and paid	7,500	5,000
Retained earnings—12/31/61	80,000	150,000
Capital stock	150,000	100,000
Land	25,000	
Patent	24,000	
From the 1962 statements:		
Net income for 1962	12,000	9,000
Dividends declared and paid	7,500	15,500
Retained earnings—12/31/62	84,500	143,500
Capital stock	150,000	110,000
Land	25,000	
Patent	16,000	

During 1962, Tin Company declared and distributed the following dividends:

Stock	10%
Cash	5%

Compute the consolidated net income for 1961 and 1962 and the consolidated retained earnings as of December 31, 1962.

Problem 22-7. Using the information given below, prepare a suitable schedule showing the computation of consolidated retained earnings as of December 31, 1962.

January 1, 1960. Company *K* purchased 3,200 shares of Company *M* at $40 a share.

Company *K* purchased 2,400 shares of Company *N* at $75 a share.

January 1, 1961. Company *K* purchased 200 shares of Company *O* at $63 a share.

Company *M* purchased 1,400 shares of Company *O* at $65 a share.

January 1, 1962. Company *N* purchased 300 shares of Company *O* at $70 a share.

Company *K* purchased 400 shares of Company *M* at $45 a share.

All shares have a par value of $50. All shares outstanding on December 31, 1962, were outstanding on January 1, 1960.

The Retained Earnings (deficit*) accounts of the companies may be summarized as follows:

	Company *K*	Company *M*	Company *N*	Company *O*
Balances, January 1, 1960	$342,000	$20,000*	$60,000	$20,000
Net operating income (loss*), 1960	80,000	10,000*	30,000	15,000
Dividends received, 1960	16,000			
Dividends paid, 1960	50,000*		20,000*	10,000*
Balances, January 1, 1961	$388,000	$30,000*	$70,000	$25,000
Net operating income, 1961	110,000	20,000	40,000	20,000
Dividends received, 1961	17,500	10,500		
Dividends paid, 1961	50,000*		20,000*	15,000*
Balances, January 1, 1962	$465,500	$ 500	$90,000	$30,000
Net operating income (loss*), 1962	130,000	30,000	10,000*	25,000
Dividends received, 1962	27,000	14,000	3,000	
Dividends paid, 1962	100,000*	10,000*	20,000*	20,000*
Balances, December 31, 1962	$522,500	$34,500	$63,000	$35,000

The balance sheets of these companies on December 31, 1962 are summarized below.

	Company *K*	Company *M*	Company *N*	Company *O*
Investment in *M*	$ 146,000			
Investment in *N*	180,000			
Investment in *O*	12,600	$ 91,000	$ 21,000	
Other assets—net	1,183,900	143,500	192,000	$135,000
	$1,522,500	$234,500	$213,000	$135,000
Capital stock	$1,000,000	$200,000	$150,000	$100,000
Retained earnings	522,500	34,500	63,000	35,000
	$1,522,500	$234,500	$213,000	$135,000

Problem 22-8. Midland Corporation acquired 80% of the capital stock of Allied Company on March 31, 1962, at a cost of $96,000, and an additional 10% on June 30, 1962, for $12,750. The December 31, 1962 trial balances of the affiliated companies follow.

Trial Balances—December 31, 1962

Debits	Midland Corporation	Allied Company
Cash	16,100	7,000
Receivables	20,400	12,800
Inventories—December 31, 1962	44,800	26,600
Investment in Allied Company	108,750	
Fixed assets—net	170,800	96,300
Cost of goods sold	382,200	199,800
Expenses	71,200	62,200
Dividends paid	10,000	6,000
	824,250	410,700

Trial Balances—December 31, 1962 (Concluded)

Credits	Midland Corporation	Allied Company
Accounts payable	28,350	16,200
Capital stock	200,000	100,000
Retained earnings—December 31, 1961	120,000	14,500
Sales	472,000	280,000
Dividends received	3,900	
	824,250	410,700

The net income of Allied Company was earned in equal monthly amounts during 1962. Dividends were declared by both companies in equal quarterly amounts on March 15, June 15, September 15, and December 15.

Midland Corporation purchased merchandise from Allied Company during 1962 in the following amounts:

Quarter Ended	Amount
March 31, 1962	$ 21,600
June 30, 1962	17,900
September 30, 1962	28,400
December 31, 1962	33,700
Total	$101,600

Of this amount, $6,400 had not been paid for on December 31, 1962.

The December 31, 1962 inventories of Midland Corporation included goods purchased from Allied Company on which profits were made as shown below.

Date of Purchase	Profit Made by Allied Company
March 10, 1962	$ 800
November 16, 1962	600
December 18, 1962	1,200

Midland Corporation has decided that it would be easier in the long run to account for its investment in Allied Company by using the equity method.

Required:

(a) Adjusting journal entries to be made in the books of Midland Corporation to change its method of accounting for the investment in the subsidiary.

(b) Consolidated working papers.

Problem 22-9. The December 31, 1962 trial balances of Sunset Corporation and its 85%-owned subsidiary are presented on the opposite page.

Sunset Corporation acquired its investment in Moonglow Company on June 30, 1960, when the retained earnings of Moonglow Company were $10,000. The difference between cost and book value of the shares acquired was attributed to certain formulae owned by Moonglow Company which were expected to be used for five years from June 30, 1960.

On December 31, 1960, Moonglow Company sold an item of equipment to Sunset Corporation at a profit of $6,000. This equipment has since been depreciated by Sunset Corporation at an annual rate of 10% of the purchase price.

Trial Balances
December 31, 1962

Debits	Sunset Corporation	Moonglow Company
Cash	21,600	8,900
Accounts receivable	68,400	27,000
Inventory—December 31, 1961	70,600	36,800
Prepaid expenses	8,100	2,600
Investment in stock of Moonglow Company—at cost	71,400	
Land	30,000	
Buildings	85,400	
Furniture and equipment	79,600	48,200
Purchases	347,800	141,500
Operating expenses	130,900	50,200
Dividends paid	20,000	10,000
	933,800	325,200
Credits		
Accumulated depreciation	41,400	10,700
Accounts payable	59,000	8,400
Accrued expenses	8,600	3,800
Capital stock	200,000	60,000
Paid-in surplus (Premium on original issuance of stock)		10,000
Retained earnings—December 31, 1961	105,200	27,900
Sales	511,100	204,400
Dividends received	8,500	
	933,800	325,200

During 1961, Moonglow Company sold a tract of land to Sunset Corporation at a profit of $2,500.

The inventory of Sunset Corporation on December 31, 1961, included goods purchased from Moonglow Company during 1961 on which Moonglow Company made a profit of $1,000.

During 1962, Moonglow Company sold goods to Sunset Corporation for $86,000, of which $12,000 was unpaid on December 31, 1962. The December 31, 1962 inventory of Sunset Corporation included goods acquired from Moonglow Company on which Moonglow Company made a profit of $1,200.

The December 31, 1962 inventories were:

Sunset Corporation	$72,400
Moonglow Company	40,200

Prepare consolidated working papers.

Problem 22-10. The following information applicable to 1962 is shown by the accounts of Harmony Company and its 90%-owned subsidiary, Bach Company.

	Harmony Company	Bach Company
Net income from operations	$125,000	$66,000
Dividends paid	60,000	30,000
Dividends received—included in balance of Retained Earnings—below	27,000	
Retained earnings—end of year	375,000	95,000

The retained earnings of Bach Company on January 1, 1956, the date of acquisition, were $15,000.

The machinery being used by Harmony Company was purchased from Bach Company and placed in service on January 1, 1958. The subsidiary made a profit of $30,000 on the $600,000 sale. When purchased, the machinery had a useful life of ten years.

Part of the cost of the inventories of Harmony Company consists of depreciation charges on machinery. The amounts of such charges thus capitalized are as follows:

Inventory—beginning of year	$2,000
Inventory—end of year	1,800

Prepare a consolidated statement of retained earnings for 1962.

Problem 22-11. High Corporation obtained control of Charm Company and Custom Company by the following purchases:

			Company's Balances at Acquisition Dates		
Date	Company	Interest	Capital Stock	Retained Earnings	Cost of Stock
January 1, 1961	Charm	40%	$30,000	$15,000	$20,000
June 30, 1961	Custom	30	20,000	6,000	7,000
March 31, 1962	Custom	50	20,000	8,000	16,000
June 30, 1962	Charm	50	30,000	20,000	30,000

Of the three companies, only Charm Company declared and paid a dividend during 1962. In December it declared and paid a dividend of $7,000.

Balance sheets for the three companies on December 31, 1962, were as follows:

Assets	High Corporation	Charm Company	Custom Company
Cash	$ 56,000	$ 5,000	$ 3,000
Receivables	34,000	`8,000	5,000
Inventories	70,000	24,000	14,000
Investment in Charm Company	50,000		
Investment in Custom Company	23,000		
Fixed assets (net)	112,000	32,000	26,000
	$345,000	$ 69,000	$ 48,000
Liabilities and Stockholders' Equity			
Accounts payable	$ 54,000	$ 14,000	$ 23,000
Accrued liabilities	5,000	3,000	6,000
Capital stock	200,000	30,000	20,000
Retained earnings (deficit*)	86,000	22,000	1,000*
	$345,000	$ 69,000	$ 48,000

The income statements for 1962 are summarized below.

Sales	$400,000	$200,000	$150,000
Cost of sales	260,000	130,000	94,000
Gross profit	$140,000	$ 70,000	$ 56,000
Expenses	110,000	52,000	68,000
Net income (loss*) from operations	$ 30,000	$ 18,000	$ 12,000*
Dividend from Charm Company	6,300		
Net income (loss*)	$ 36,300	$ 18,000	$ 12,000*

The results of intercompany sales are shown below.

Seller	Purchaser	1962 Sales	Intercompany Profit in Dec. 31, 1962 Inventories
High	Charm	$10,000	$800
Charm	High	8,000	500
Charm	Custom	4,000	300
Custom	Charm	6,000	400

The companies use the first-in, first-out inventory method, and all merchandise acquired prior to August 1, 1962, has been sold.

There is no intercompany indebtedness as of December 31, 1962.

Required:

(a) Consolidated working papers.
(b) Consolidated income statement for 1962.
(c) Consolidated statement of retained earnings for 1962.

Assignment Material for Chapter 23

Questions

Question 23-1. Under what circumstances, if any, might a parent company gain as a result of the issuance of additional shares of stock by a subsidiary?

Question 23-2. If a parent company's per cent of stock ownership in a subsidiary increases during a year, how would you compute the deduction for intercompany profit in the inventory of:

(a) The parent company, the goods having been purchased from the subsidiary?
(b) The subsidiary, the goods having been purchased from the parent?

Question 23-3. Under what circumstances will the amount of gain or loss resulting from the sale of a portion of the parent company's interest in a subsidiary be the same for consolidated statements and for parent company statements?

Question 23-4. Describe the circumstances that could cause a reduction in the amount of the excess of cost over book value from one year to the next.

Question 23-5. A subsidiary has \$100,000 par value of unissued common stock and \$100,000 par value of treasury common stock. The parent proposes to acquire either the unissued stock or the treasury stock for \$120,000. Will it make any difference whether the parent company acquires the unissued stock instead of the treasury stock?

Question 23-6. A parent acquires a fixed asset from a 100%-owned subsidiary, the subsidiary making a profit on the sale. During the next year, the parent sells 20% of its stock interest in the subsidiary. What per cent is relevant for the determination of the intercompany profit deduction applicable to the parent's interest subsequent to the stock sale?

Problems

Problem 23-1. The trial balances of a parent and its subsidiary are presented below. The subsidiary was organized by the parent during 1958 and was 100% owned until April 1, 1961, when the parent sold a 10% interest to outsiders for \$8,000. Prepare consolidated working papers.

Trial Balances
December 31, 1961

	Hartley Company	Wente Company
Sundry assets	155,000	100,000
Investment in Wente Company (90%)	45,000	
Cost of goods sold	380,000	200,000
Expenses	93,000	80,000
	673,000	380,000
Sundry liabilities	40,000	20,000
Capital stock	100,000	50,000
Retained earnings—December 31, 1960	30,000	10,000
Sales	500,000	300,000
Gain on sale of stock	3,000	
	673,000	380,000

Problem 23-2. Martin Corporation purchased 80% of Thomas Company stock several years ago, and the investment is carried on the equity basis. The stock was acquired when Thomas Company had retained earnings of $5,000. Just prior to the date of the balance sheets below, Thomas Company sold $40,000 par value of its unissued stock to its employees for $68,000 in cash.

Thomas Company earned $18,000 during the current year, but Martin Corporation had not taken up its share of the earnings for the current year. No dividends were declared during the current year.

Balance Sheets at End of Current Year

	Martin Corporation	Thomas Company
Sundry assets	$574,200	$333,000
Investment in Thomas Company	200,000	
	$774,200	$333,000
Capital stock	$600,000	$240,000
Premium on capital stock		28,000
Retained earnings	174,200	65,000
	$774,200	$333,000

Compute the consolidated retained earnings as of the end of the current year.

Problem 23-3. Circle Company purchased 90% of the stock of Oh Company when the latter company was organized in 1955. On July 1, 1961, it acquired the remaining 10% of the stock for $15,000. On October 1, 1961, Circle Company sold 20% of its interest in Oh Company for $30,000.

Trial Balances—December 31, 1961

	Circle Company	Oh Company
Sundry assets	156,600	150,000
Investment in Oh Company (80%)	114,200	
Cost of goods sold	385,000	200,000
Expenses	90,000	76,000
	745,800	426,000
Sundry liabilities	30,000	10,000
Capital stock	150,000	100,000
Retained earnings—December 31, 1960	41,000	16,000
Sales	500,000	300,000
Subsidiary income	21,600	
Gain on sale of stock	3,200	
	745,800	426,000

You may assume that the net income of Oh Company was earned at a uniform rate during 1961. The parent company made it a practice to record its share of the earnings of the subsidiary quarterly. The following credit entries were made in the account for Subsidiary Income:

1961		
March 31	90% of $6,000	$ 5,400
June 30	90% of $6,000	5,400
September 30	100% of $6,000	6,000
December 31	80% of $6,000	4,800
Total		$21,600

Prepare consolidated working papers.

Problem 23-4. From the following information prepare a consolidated statement of retained earnings for the year ended December 31, 1962.

December 31, 1962

	Company *X*	Company *Y*	Company *Z*
Sundry assets	$450,000	$400,000	$350,000
Investment in Company *Y* at cost (90%)	150,000		
Investment in Company *Z* (90%)		130,000	
	$600,000	$530,000	$350,000
Sundry liabilities	$300,000	$250,000	$200,000
Capital stock	200,000	150,000	100,000
Retained earnings—December 31, 1961	72,000	91,000	40,000
Net income (loss*)—Six months ended June 30, 1962	20,000	20,000*	30,000*
Net income—Six months ended December 31, 1962, excluding dividends	10,000	70,000	50,000
Dividends declared and paid during December, 1962 (* deduction)	20,000*	20,000*	10,000*
Dividends received from subsidiaries	18,000	9,000	
	$600,000	$530,000	$350,000

As of January 1, 1956, Company *X* purchased 80% of the stock of Company *Y* for $120,000. As of that date, Company *Y* had capital stock of $150,000 and retained earnings of $20,000. On July 1, 1962, Company *X* purchased an additional 10% interest in Company *Y* for $30,000.

As of January 1, 1957, Company *Y* purchased 100% of the stock of Company *Z* for $150,000. As of that date, Company *Z* had capital stock of $100,000 and retained earnings of $30,000. On June 30, 1962, Company *Y* sold 10% of its interest in Company *Z* for $20,000.

Problem 23-5. From the information given below prepare:

(a) Consolidated statement of retained earnings for 1963.
(b) A schedule showing the difference between cost and book value acquired in connection with the investments in Companies *B* and *D*.

Balance Sheets, December 31, 1963

	A Company	*B* Company	*D* Company
Accounts receivable	$ 346,480	$ 132,740	$ 68,740
Cash surrender value of life insurance	15,480		
Cash in bank	224,682	59,420	9,720
Deferred charges	14,620	6,232	2,740
Inventories	462,000	267,032	109,630
Investment in *B* Company—4,000 shares at cost	600,000		
Investment in *D* Company—800 shares at cost		200,000	
Land, buildings, machinery, and equipment	897,306	408,784	273,086
Receivable from *D* Company		16,836	
	$2,560,568	$1,091,044	$463,916

	A Company	*B* Company	*D* Company
Accounts payable	$ 326,740	$ 127,630	$ 96,940
Accumulated depreciation	370,620	138,760	96,320
Allowance for bad debts	38,000	17,000	10,000
Capital stock—common:			
10,000 shares of $100 each	1,000,000		
5,000 shares of $100 each		500,000	
1,000 shares of $100 each			100,000
Retained earnings	825,208	307,654	143,820
Payable to *B* Company			16,836
	$2,560,568	$1,091,044	$463,916

A Company acquired 75% of the stock of *B* Company on January 1, 1963, for $562,500, and on July 1, 1963, a further 5% interest was purchased for $37,500. *B* Company acquired 80% of the stock of *D* Company on June 30, 1962.

Retained Earnings

	A Company	*B* Company	*D* Company
Balance—December 31, 1961	$ 720,808	$ 285,672	$126,948
Net operating income:			
Six months ended June 30, 1962	8,260	2,762	974
Six months ended Dec. 31, 1962	12,390	4,710	2,978
Dividends on *B* Company stock received September 30, 1963	20,000		
Excess of proceeds of sale of *E* Company stock over cost	50,000		
Net operating income:			
Six months ended June 30, 1963	32,640	11,690	3,276
Six months ended Dec. 31, 1963	81,110	27,820	9,644
	$ 925,208	$ 332,654	$143,820
Dividends paid	100,000	25,000	
Balance—December 31, 1963	$ 825,208	$ 307,654	$143,820

A Company owned all of the capital stock of *E* Company from June 30, 1957 to September 30, 1963. On the latter date, the stock was sold for $100,000, or $50,000 more than the purchase price. The stockholders' equity of *E* Company amounted to $60,460 on June 30, 1957. By December 31, 1962, it had increased through earnings to $87,630, and by September 30, 1963, it showed further earnings, the capital stock and retained earnings then amounting to $93,920.

The inventory of *A* Company on December 31, 1962, contained merchandise acquired from *E* Company, valued at $18,700, the sum billed by the latter company. The goods had been produced by *E* Company at a cost of $17,000.

Problem 23-6. Prancer Corporation acquired control of *S* Co. on June 30, 1959, by purchase in the market of 2,800 shares of its 4,000 issued shares of $100 par value common stock. At that time *S* Co. had 500 shares of its own stock held as treasury stock and carried at par.

On January 1, 1961, Prancer Corporation acquired 200 additional shares from a minority stockholder. On December 31, 1961, by agreement with the minority stockholders, Prancer Corporation acquired the 500 shares held in the treasury of *S* Co.

The investment account of Prancer Corporation, at cost, shows the debits detailed on the following page.

June 30, 1959, 2,800 shares of *S* Co.	$394,800
January 1, 1961, 200 shares of *S* Co. purchased from outside interests	35,000
December 31, 1961, 500 shares of *S* Co. obtained from *S* Co.	90,000
Total	$519,800

The accounts of *S* Co. contained the following items:

	Paid-in Surplus	Retained Earnings
Credits		
Balance—June 30, 1959	$ 74,300	$ 43,745
Earnings—June 30 to December 31, 1959		35,306
Earnings—1960		60,754
Earnings—1961		51,025
From sale of treasury stock	40,000	
Total	$114,300	$190,830
Debits		
Dividends paid—December 1, 1959		$ 35,000
Dividends paid—December 5, 1960		35,000
Dividends paid—December 15, 1961		35,000
Total		$105,000
Balance—December 31, 1961	$114,300	$ 85,830

Compute the excess of cost over book value arising from the investments by Prancer Corporation in the stock of *S* Co.

Problem 23-7. Hepworth Company and its subsidiary prepared the following statements.

Income Statements
For the Year Ended December 31, 1962

	Hepworth Company	Randy Company
Sales	$700,000	$501,000
Cost of goods sold	447,000	305,000
Gross profit on sales	$253,000	$196,000
Expenses:		
Selling expenses	$ 83,600	$ 71,900
General expenses	114,000	95,900
Total expenses	$197,600	$167,800
Net income from operations	$ 55,400	$ 28,200
Dividend from subsidiary	8,000	
Net income	$ 63,400	$ 28,200

Statements of Retained Earnings
For the Year Ended December 31, 1962

	Hepworth Company	Randy Company
Balances—December 31, 1961	$117,500	$ 62,400
Net income	63,400	28,200
Total	$180,900	$ 90,600
Dividends paid	50,000	10,000
Balances—December 31, 1962	$130,900	$ 80,600

Balance Sheets
December 31, 1962

Assets	Hepworth Company	Randy Company
Cash	$ 58,434	$ 29,300
Accounts receivable	231,000	34,000
Randy Company	7,500	
Inventory	60,000	76,000
Land and buildings—less depreciation	155,000	
Machinery and equipment—less depreciation	111,000	125,700
Investment in Randy Company (80%)	187,320	
	$810,254	$265,000
Liabilities and Stockholders' Equity		
Accounts payable	$179,354	$ 51,900
Hepworth Company		7,500
Capital stock	500,000	125,000
Retained earnings	130,900	80,600
	$810,254	$265,000

On January 2, 1958, Hepworth Company purchased a 90% interest in Randy Company for $209,340, which amount equalled 90% of the book value of Randy Company as of January 2, 1958. On July 1, 1962, Hepworth Company sold a 10% interest in the subsidiary for $22,020.

The business of Randy Company is nonseasonal.

At what amount should the gain or loss arising from the sale of the 10% interest be shown:

(a) in the 1962 financial statements of Hepworth Company?
(b) in the 1962 consolidated financial statements of Hepworth Company and its subsidiary?

Problem 23-8. Lowden Company owns 6,000 shares of stock in Tipton Company. The December 31, 1960 balance sheet of the subsidiary revealed the following information:

Capital stock—$20 par value; authorized, 10,000 shares; issued, 8,000 shares		$160,000
Treasury stock—500 shares, at cost		14,000
Paid-in surplus		10,000
Retained earnings:		
Restricted—Reserve for sinking fund	$51,000	
Free	66,000	

As of January 1, 1961, the treasury stock was sold to outsiders for $20,000. As of January 1, 1962, the unissued shares were sold to the officers of Tipton Company for $38 a share.

Net income amounts, from each company's own operations, are shown below.

	Lowden Company	Tipton Company
1961	$62,000	$40,000
1962	54,300	42,000

Compute the consolidated net income for 1961 and for 1962, assuming that the subsidiary declared no dividends during 1961 and 1962.

Problem 23-9. On January 2, 1961, Company *F* purchased 90% of the stock of Company *G* and 80% of the stock of Company *H*. Wishing to acquire the remaining stock of the more profitable company (Company *H*), Company *F*, on June 30, 1961, disposed of 200 shares of its holdings in Company *G* for $160 per share and on the same date was successful in acquiring an additional 10% of the stock of Company *H* in consideration of the entire proceeds from the 200 shares of Company *G* stock.

The investment accounts are carried at cost, except that the proceeds from the 200 shares of Company *G* stock were credited to the investment account.

The following information was taken from the December 31, 1961 trial balances of the companies.

	Company		
	F	*G*	*H*
Current assets	138,500	150,000	105,000
Investment in subsidiary companies:			
Company *G*:			
Capital stock	220,000		
Advances	25,000		
Company *H*:			
Capital stock	228,000		
Advances	40,000		
Fixed assets—net of depreciation		170,000	235,000
Expenses	5,000	70,000	60,000
Dividends (declared and paid in December)	70,000	20,000	10,000
	726,500	410,000	410,000
Accounts payable	235,000	40,000	25,000
Company *F*		25,000	40,000
Capital stock:			
Company *F*—3,000 shares	300,000		
Company *G*—2,000 shares		200,000	
Company *H*—1,000 shares			100,000
Retained earnings—December 31, 1960	166,500	60,000	145,000
Revenues		85,000	100,000
Dividends received	25,000		
	726,500	410,000	410,000

It may be assumed that the earnings of the companies for 1961 were divided equally between the two six-month periods.

Prepare consolidated working papers.

Problem 23-10. As of January 1, 1959, Promotion Company acquired 80% of the capital stock of Sunburn Company for $136,000, which was $16,000 in excess of book value. The excess was attributable to intangible assets carried on the books of Sunburn Company at no value. At acquisition, the management of the parent company believed that the intangibles would be of benefit to the subsidiary company for eight years.

As of January 1, 1961, Promotion Company sold a 10% interest in Sunburn Company for $15,000.

There were no intercompany sales during 1961. However, there were intercompany sales made by Sunburn Company during 1960, and as a result there was intercompany profit in the December 31, 1960 inventory of $1,200. One-fourth of the goods purchased from Sunburn Company during 1960, and unsold as of December 31, 1960, remained unsold as of December 31, 1961.

The December 31, 1961 trial balances of the affiliated companies follow.

Debits	Promotion Company	Sunburn Company
Cash	30,000	20,000
Receivables	54,000	30,000
Inventory—December 31, 1961	70,000	50,000
Investment in Sunburn Company (70%)—at cost	119,000	
Fixed assets—net	200,000	90,000
Cost of goods sold	580,000	210,000
Expenses	180,000	100,000
Loss on sale of stock	2,000	
Dividends paid	15,000	
	1,250,000	500,000
Credits		
Accounts payable	50,000	60,000
Capital stock	300,000	100,000
Retained earnings—December 31, 1960	100,000	40,000
Sales	800,000	300,000
	1,250,000	500,000

Prepare a consolidated income statement for 1961.

Problem 23-11. The December 31, 1962 trial balances of Schmidt Corporation and its 85%-owned subsidiary are presented below.

Trial Balances
December 31, 1962

Debits	Schmidt Corporation	Seyfried Company
Cash	21,600	8,900
Accounts receivable	68,400	27,000
Inventories—December 31, 1962	70,600	36,800
Prepaid expenses	8,100	2,600
Investment in stock of Seyfried Company—at cost	71,400	
Land	30,000	
Buildings	85,400	
Furniture and equipment	79,600	48,200
Cost of goods sold	347,800	141,500
Operating expenses	130,900	50,200
Dividends paid	20,000	10,000
	933,800	325,200
Credits		
Accumulated depreciation	41,400	10,700
Accounts payable	59,000	8,400
Accrued expenses	8,600	3,800
Capital stock—$10 stated value	200,000	60,000
Paid-in surplus		10,000
Retained earnings—December 31, 1961	105,200	27,900
Sales	511,100	204,400
Dividends received	8,500	
	933,800	325,200

Schmidt Corporation owned all of the outstanding stock of Seyfried Company as of December 31, 1961. The investment was acquired when the retained earnings of Seyfried Company amounted to $19,000.

As of January 1, 1962, 900 unissued shares of Seyfried Company stock were issued to the officers of that corporation for $19,000.

Prepare consolidated working papers.

Problem 23-12. American Company and its subsidiary, National Company, close their books annually on June 30. On June 30, 1961, the adjusted trial balances were as follows:

Trial Balances—June 30, 1961

	American Company	National Company
Debits		
Cash	8,250	31,000
Accounts receivable—net	15,000	23,500
Inventory—June 30, 1961	33,000	27,000
Prepaid expenses	2,000	4,000
Investment in National Company—90%	229,950	
Fixed assets—net of depreciation	180,000	185,000
Cost of goods sold	360,000	200,000
Selling expense	60,000	50,000
Administrative expense	50,000	30,000
Dividends	25,000	9,500
	963,200	560,000
Credits		
Accounts payable	29,250	15,000
Capital stock—no par value	300,000	200,000
Retained earnings—June 30, 1960	120,000	45,000
Sales	500,000	300,000
Income from investment in subsidiary	13,950	
	963,200	560,000

National Company reports its earnings quarterly and pays dividends semi-annually. For the year ended June 30, 1961, the earnings and dividends of the subsidiary were as follows:

For Three Months Ended	Net Income	Dividends Declared and Paid
September 30, 1960	$4,000	
December 31, 1960	5,000	$4,500
March 31, 1961	5,000	
June 30, 1961	6,000	5,000

An analysis in T-account form of an account in the ledger of American Company is presented below.

Income from Investment in Subsidiary

1/2/61	4,950	9/30/60	4,000
		12/31/60	5,000
		3/31/61	4,500
		6/30/61	5,400

National Company was organized by American Company several years ago when it invested $180,000 for 45,000 shares of no-par stock. As of January 2, 1961, with the expectation of expanding the business of the subsidiary in Canada, the parent company approved the sale of 5,000 unissued shares of National Company stock to Canadians for 20,000 U. S. dollars.

Prepare consolidated working papers for the year ended June 30, 1961.

Assignment Material for Chapter 24

Questions

Question 24-1. Under what circumstances will the consolidated net income be affected as a result of intercompany bond purchases?

Question 24-2. Is the minority interest ever affected by the acquisition of intercompany bonds?

Question 24-3. Describe the conditions that will lead to a "gain from acquisition of intercompany bonds" appearing in the consolidated income statement.

Question 24-4. Summarize the rules usually followed whenever it is necessary to apportion the retained earnings between the preferred and common stock equities.

Question 24-5. It has been suggested that, instead of showing in the consolidated balance sheet only the amount of bonds not intercompany-held, details should be presented as follows:

Bonds payable	$100,000	
Less bonds intercompany-held	10,000	
Bonds in hands of public		$90,000

Can you think of any reason why such a balance sheet presentation might be desirable?

Problems

Problem 24-1. Company *S* issued $300,000 par value of 4% bonds due January 1, 1963. As of January 1, 1960, Company *P* (which owned 100% of the stock of Company *S*) purchased $100,000 of the bonds at par. The total unamortized bond discount on the subsidiary's books on January 1, 1960, was $2,700.

Prepare a working paper showing the adjustments and eliminations that should be made on consolidated working papers for each of the years ended December 31, 1960, 1961, and 1962 as a result of the intercompany bond holdings.

Problem 24-2. Lyon Corporation owns 100% of the capital stock of Publication Company and 100% of the capital stock of Travel, Incorporated. On January 1, 1953, Publication Company issued $500,000 par value of ten-year 5% bonds at 102. On July 1, 1960, Travel, Incorporated acquired $100,000 par value of these bonds at par. The issuance premium had been properly amortized on the straight-line basis by Publication Company.

Prepare a working paper showing how the bonds, the interest thereon, and any gain or loss resulting from the purchase of bonds would appear in the consolidated statements for the years ended December 31, 1960, 1961, and 1962.

Problem 24-3. Large Company owns all of the outstanding stock of Small Company. The December 31, 1959 balance sheet of Large Company revealed the following information concerning an outstanding bond issue:

Bonds payable—3½%—Maturing January 1, 1963	$150,000
Unamortized bond discount	2,700

As of December 31, 1959, Small Company purchased one-third of the outstanding bonds of Large Company for $49,700. The December 31, 1959 interest coupons were removed by the seller.

Prepare a working paper showing the adjustments and eliminations that should be made on consolidated working papers for each of the years ended December 31, 1959, 1960, 1961, and 1962 as a result of the intercompany bond holdings.

Problem 24-4. Solve Problem 24-3 with the following revisions in the problem data:

Date of purchase of bonds by Small Company—November 1, 1959.
Price paid for the bonds—$50,760, plus accrued interest.
Bond interest rate—3%.

Problem 24-5. Woody Company acquired 80% of the 1,000 outstanding shares of common stock of Bates Corporation on June 30, 1959 for $125 per share. On this date, the stockholders' equity of Bates Corporation consisted of the following:

Common stock—$100 par value	$100,000
5% cumulative, nonparticipating preferred stock—$100 par value	200,000
Retained earnings	28,000

Dividends on the preferred stock had not been paid during 1959.

On December 31, 1961, the stockholders' equity accounts of Bates Corporation contained the following balances:

Common stock	$100,000
Preferred stock	200,000
Retained earnings	14,000

On this date, Woody Company purchased 1,000 shares of preferred stock of Bates Corporation for $108 per share. Dividends on the preferred stock had been paid for 1959 and 1960, but no preferred dividends had been declared or paid during 1961.

The retained earnings of Woody Company on December 31, 1961, were $42,600. The parent company carried the subsidiary stocks at cost.

Prepare suitable schedules showing the following as of December 31, 1961:

Minority interest.
Consolidated retained earnings.

Problem 24-6. Arnold Company owns 90% of the 5% preferred stock and 80% of the common stock of Raymond Corporation.

The preferred stock, which is cumulative but nonparticipating, was acquired in 1954, when Raymond Corporation had a deficit of $6,500 and was three years in arrears on its preferred dividends. Arnold Company paid $103,500 for the preferred shares. The common stock was acquired early in 1957, when Raymond Corporation had retained earnings of $41,200. No dividends had been paid on the preferred stock in the interim, and dividends were in arrears for six years. During the next five years ended December 31, 1961, Raymond Corporation earned $62,450 and paid six years' dividends on the preferred stock.

Data from the December 31, 1961 trial balances of the two companies are presented on the following page.

	Arnold Company	Raymond Corporation
Current assets	$ 93,000	$ 49,250
Investment in Raymond Corporation:		
Preferred stock	90,000	
Common stock—at cost	172,400	
Other assets	254,600	341,250
Expenses	70,000	46,000
Dividends:		
On preferred		10,000
On common	15,000	
	$695,000	$446,500
Current liabilities	$ 41,600	$ 16,850
Preferred stock—$100 par value		100,000
Common stock—$100 par value	500,000	200,000
Retained earnings—December 31, 1960	54,400	69,650
Income from operations	90,000	60,000
Dividend income	9,000	
	$695,000	$446,500

Prepare consolidated working papers.

Problem 24-7. Following are condensed balance sheets of a parent company and its 75%-owned subsidiary on June 30, 1961.

Balance Sheets—June 30, 1961

Assets	Arlington Company	Hawthorne Company
Sundry assets	$196,200	$578,400
Investment in stock of Hawthorne Company—at cost	250,000	
Investment in bonds of Hawthorne Company—$35,000 par	34,850	
	$481,050	$578,400
Liabilities and Stockholders' Equity		
Sundry liabilities	$ 65,150	$ 82,500
Bonds payable		100,000
Premium on bonds payable		900
Capital stock	300,000	300,000
Retained earnings	115,900	95,000
	$481,050	$578,400

Hawthorne Company's retained earnings at the date of acquisition were $26,500.

Prepare a consolidated balance sheet as of June 30, 1961.

Problem 24-8. Able Corporation owns 80% of the capital stock of Baker Company and 90% of the capital stock of Charles Company. On December 31, 1953, Charles Company issued $100,000 par value of ten-year 4% bonds at 98. On January 1, 1961, Baker Company acquired $30,000 par value of these bonds at 102. The issuance discount has been properly amortized on the straight-line basis by Charles Company. You may assume that Baker Company will properly apply the straight-line basis of amortization.

The amounts shown as net income in company financial statements are set forth on the following page.

	Able Corporation	Baker Company	Charles Company
1961	$20,000	$16,000	$10,000
1962	22,000	14,000	15,000

No dividends were declared by the companies in 1961 and 1962.

Compute the consolidated net income for each of the years 1961 and 1962.

Problem 24-9. Upper Company acquired the following holdings when the subsidiaries were organized.

Subsidiary	Cost	Per Cent
Base Company	$30,000	75%
Bottom Company	27,000	90

The bonds owned by Bottom Company were purchased on December 31, 1960, for $19,250. They bear 5% interest and mature December 31, 1963.

Prepare consolidated working papers for the year ended December 31, 1962, making use of the following data taken from company statements for 1962.

	Company		
	Upper	Base	Bottom
Net income before interest	$ 1,000	$ 10,000	$20,000
Interest expense		6,000	
Interest earned			1,250
Retained earnings—December 31, 1961	6,000	8,000	41,250
Sundry assets	22,000	155,000	75,750
Investment in subsidiaries:			
Base Company (75%)	30,000		
Bottom Company (90%)	27,000		
Investment in bonds of Base Company			19,750
Unamortized bond discount		1,000	
Bonds payable		100,000	
Accounts payable	2,000	4,000	3,000
Capital stock	70,000	40,000	30,000

Problem 24-10. From the following trial balances and additional information as of December 31, 1961, you are to prepare the Income Statement section of consolidated working papers.

	P Company		*S* Company	
	Debit	Credit	Debit	Credit
Cash	23,000		30,000	
Accounts receivable	94,000		60,000	
Inventory—December 31, 1960—cost	140,000		51,000	
Investment in stock of *S* Company	175,000			
Investment in bonds of *S* Company	51,800			
Other assets, including notes receivable	445,000		210,000	
Current liabilities		163,000		17,100
Bonds payable—5%				200,000
Unamortized bond premium				5,400
Sales		630,000		340,000
Purchases	450,000		300,000	
Operating expenses	92,000		70,000	
Other expenses, including interest	22,000		15,500	
Interest and dividends		12,800		
Dividends paid	20,000		10,000	
Retained earnings—December 31, 1960		107,000		84,000
Common stock		600,000		100,000
	1,512,800	1,512,800	746,500	746,500

Additional information:

1. The investment in stock of *S* Company represents a 90% interest in the stock of *S* Company which was acquired January 1, 1961 for $175,000. At the same time, $50,000 face amount of bonds of *S* Company were acquired for $52,000. These bonds had been issued as of January 1, 1951 at 106 and are due January 1, 1971. *S* Company has recorded the amortization of the bond premium applicable to 1961 as an adjustment of interest expense. The stock and the bonds were not purchased from *S* Company, but from the public.

2. Included in the Purchases account of *P* Company is a total of $100,000 of goods bought from *S* Company at 120% of cost to *S* Company. The closing inventory of *P* Company is estimated to include the same proportion of these purchases as of other purchases.

3. Inventories at December 31, 1961, at cost to each company, were:

P Company	$81,000
S Company	79,000

Problem 24-11. Monroe Company owns 88% of the stock of Dutton Company, and takes up its share of the subsidiary's earnings, losses, and dividends through its investment account.

Trial balances of the two companies on December 31, 1961, are presented below.

	Monroe Company	Dutton Company
Debits		
Cash	39,400	16,950
Accounts receivable	130,500	56,110
Dutton Company	31,850	
Inventory—December 31, 1961	59,600	51,150
Land and buildings	186,750	
Machinery and equipment	85,100	103,500
Investments in Dutton Company:		
Stock	66,210	
Bonds—purchased at par during 1960	12,000	
Sinking fund		5,000
Cost of sales	571,170	216,410
Selling expenses	95,190	31,250
General expenses	64,500	21,000
Bond interest expense	7,500	3,500
Loss of subsidiary	3,960	
Dividends paid	20,000	
	1,373,730	504,870
Credits		
Accounts payable	60,425	59,860
Monroe Company		14,350
Accumulated depreciation	86,100	23,500
Bonds payable	150,000	60,000
Bond premium		900
Preferred stock	100,000	
Common stock	140,000	100,000
Retained earnings—December 31, 1960	29,870	21,400*
Sales	806,615	267,660
Bond interest earned	720	
	1,373,730	504,870

* Debit balance.

The $17,500 difference in the intercompany accounts results from the debits on the books of Monroe Company shown on the following page.

December 31—Sinking fund deposit made for Dutton Company on guaranteed bonds of the latter	$ 5,000
December 31—Sale to Dutton Company, not received by Dutton until 1962 (cost, $9,800)	12,500
Total	$17,500

The above was the only intercompany sale during 1961.
Prepare consolidated working papers. Do not use pennies in the working papers.

Problem 24-12. From the following trial balances and supplementary data, prepare consolidated working papers.

	Trial Balances, December 31, 1961		
	Company *X*	Company *Y*	Company *Z*
Investment in common stock:			
Company *Y* (90%)	110,000		
Company *Z* (95%)	110,000		
Investment in preferred stock:			
Company *Y* (40%) (par and cost)	10,000		
Investment in bonds:			
Company *Y*	50,000		
Company *Z*	49,050		
Land, buildings, and machinery—net of depreciation	367,000	225,000	250,000
Inventories	80,000	50,000	70,000
Accounts receivable	50,000	40,000	50,000
Cash	40,000	20,000	35,000
Bond discount		5,000	
Purchases—Materials	418,000	260,000	300,000
Direct labor	365,000	240,000	210,000
Manufacturing expense	227,550	199,000	168,000
Selling and general expense	80,000	50,000	60,000
Bond interest expense		3,000	4,125
	1,956,600	1,092,000	1,147,125
Capital stock:			
Nonparticipating 6% preferred, nonvoting	100,000	25,000	50,000
Common	400,000	50,000	50,000
Bonds payable—10-year issues		50,000	75,000
Accounts payable	62,500	80,000	89,990
Sales	1,215,000	800,000	825,000
Bond interest earned	3,000		
Retained earnings	176,100	87,000	53,760
Bond premium			3,375
	1,956,600	1,092,000	1,147,125

Company *X*'s investments in subsidiaries are further commented upon as follows:

Common stock of Company *Y*, acquired January 1, 1960, and carried at cost.
Common stock of Company *Z*, acquired January 1, 1961, and carried at cost.
Preferred stock of Company *Y*, acquired January 1, 1961, and carried at cost; no dividends in arrears at date of acquisition.
Bonds of Company *Y*, acquired from Company *Y* at 90 on the date of issue, January 1, 1961.
Bonds of Company *Z*, issued January 1, 1961 at 105; $50,000 par value acquired by Company *X* on July 1, 1961 for $49,050.

On December 31, 1960, Company *X*'s inventory contained finished goods on which profits had been made by Companies *Y* and *Z* in the respective amounts of $2,000 and $3,000.

The Retained Earnings accounts of the three companies are analyzed as follows:

	Company *X*	Company *Y*	Company *Z*
Balance—January 1, 1960	$128,750	$63,000	$26,660
Dividend on common stock from Company *Y*	2,700		
Net income from operations	87,500	33,000	39,100
Total	$218,950	$96,000	$65,760
Dividends paid on:			
Common stock	$ 24,000	$ 3,000	$ 3,000
Preferred stock		1,500	3,000
Total	$ 24,000	$ 4,500	$ 6,000
Balance—December 31, 1960	$194,950	$91,500	$59,760
Dividends received:			
Company *Y*: Common	2,700		
Preferred	600		
Company *Z*: Common	2,850		
Discount on Company *Y* bonds purchased	5,000		
Total	$206,100	$91,500	$59,760
Dividends paid—December 31, 1961—on:			
Common	$ 24,000	$ 3,000	$ 3,000
Preferred	6,000	1,500	3,000
Total	$ 30,000	$ 4,500	$ 6,000
Balance—December 31, 1961	$176,100	$87,000	$53,760

The accounts receivable and accounts payable include, on December 31, 1961, intercompany accounts as follows:

	Per Books of		
	Company *X*	Company *Y*	Company *Z*
Owed by Company *Y* to Company *X*	$ 14,250	$14,250	
Owed by Company *Z* to Company *X*	11,500		$13,000

Company *Y* has paid its bond interest for the year; Company *Z* has paid its interest to outside bondholders and has credited Company *X* with the interest due that company for the year. This accrual has not, however, been taken up by Company *X*.

Intercompany purchases and sales during the year ended December 31, 1961 were:

	To Company		
	X	*Y*	*Z*
By Company:			
X		$25,000	$35,000
Y	$40,000		20,000
Z	60,000	50,000	

The inventories of the three companies at the beginning and end of the year are summarized on the following page.

Summary of Inventories

	Company X	Company Y	Company Z
December 31, 1960:			
Materials	$30,000	$15,000	$10,000
Goods in process	25,000	20,000	30,000
Finished goods	25,000	15,000	30,000
	$80,000	$50,000	$70,000
December 31, 1961:			
Materials	$25,000	$12,000	$15,000
Goods in process	30,000	17,000	25,000
Finished goods	20,000	31,000	25,000
	$75,000	$60,000	$65,000

Unrealized profit in inventories on December 31, 1961:

	Profit Made by Company		
	X	Y	Z
Materials	$3,000	$1,000	$2,000
Goods in process	2,000	1,000	1,500
Finished goods	1,500	3,000	2,505
Total	$6,500	$5,000	$6,005

Assignment Material for Chapter 25

Questions

Question 25-1. List some reasons that might justify the exclusion of a subsidiary from consolidated statements.

Question 25-2. Under what circumstances, if any, is it considered undesirable to include foreign subsidiaries in consolidated statements?

Question 25-3. State the criteria to be applied in deciding what subsidiaries to include in consolidated statements.

Question 25-4. Is it considered acceptable to consolidate jointly owned companies?

Question 25-5. What limitations detract from the usefulness of consolidated statements?

Question 25-6. List the main distinguishing features of the entity theory of consolidated statements.

Question 25-7. Under what circumstances may combined statements prove useful?

Question 25-8. Discuss the position taken by the Committee on Accounting Procedure in the matter of unconsolidated subsidiaries.

Question 25-9. Are there any basic differences in consolidation procedure when the subsidiary has been acquired in a pooling of interests?

Problems

Problem 25-1. The trial balances of a parent company and its 80%-owned subsidiary are presented below. The parent-subsidiary relationship has existed for one year only. Any excess of cost over book value is assignable to goodwill.

Trial Balances
December 31, 1961

Debits	Vapor Company	Strato Company
Cash	35,000	60,000
Accounts receivable	87,000	49,000
Inventory—December 31, 1961	180,000	135,000
Investment in stock of Strato Company (80%)—at cost	184,000	
Dividends	18,000	9,000
Cost of goods sold	402,000	219,000
Expenses	93,000	44,000
	999,000	516,000
Credits		
Accounts payable	31,800	30,000
Capital stock	300,000	150,000
Retained earnings	105,000	60,000
Sales	555,000	276,000
Dividend from subsidiary	7,200	
	999,000	516,000

Required: Consolidated working papers, following the entity theory.

Problem 25-2. The trial balances of a parent company and its wholly-owned subsidiary are presented below. The acquisition was made by issuing 15,000 shares of Cumulus stock to the shareholders of Stratus Company. The parent-subsidiary relationship has existed for one year only.

Trial Balances
December 31, 1961

Debits	Cumulus Company	Stratus Company
Cash	111,000	60,000
Accounts receivable	87,000	49,000
Inventory—December 31, 1961	180,000	135,000
Investment in stock of Stratus Company (100%)	150,000	
Dividends	18,000	9,000
Cost of goods sold	302,000	219,000
Expenses	93,000	44,000
	941,000	516,000
Credits		
Accounts payable	57,000	30,000
Capital stock—$10 stated value	300,000	150,000
Retained earnings	150,000	60,000
Sales	425,000	276,000
Dividend from subsidiary	9,000	
	941,000	516,000

Required:

Consolidated working papers, assuming a pooling of interests.

Problem 25-3. The December 31, 1962 trial balances of Snow Corporation and Meteor Company are presented below.

Trial Balances—December 31, 1962

Debits	Snow Corporation	Meteor Company
Cash	21,600	8,900
Accounts receivable—net	58,400	27,000
Inventory—December 31, 1962	50,600	36,800
Prepaid expenses	8,100	2,600
Land	30,000	
Building	85,400	
Furniture and equipment	79,600	48,200
Cost of goods sold	247,800	141,500
Operating expenses	128,000	30,200
Dividends paid	20,000	10,000
	729,500	305,200
Credits		
Accumulated depreciation	41,400	10,700
Accounts payable	13,200	8,400
Accrued expenses	8,600	3,800
Capital stock	150,000	60,000
Paid-in surplus (Premium on original issuance)		10,000
Retained earnings—December 31, 1961	105,200	27,900
Sales	411,100	184,400
	729,500	305,200

Snow Corporation has completed negotiations with the stockholders of Meteor Company whereby, as of December 31, 1962, Snow Corporation will issue $55,000 of additional capital stock in exchange for the $60,000 of outstanding capital stock of Meteor Company.

Assume that such exchange occurs and that the transaction may be classed as a pooling of interests.

Prepare the December 31, 1962 consolidated balance sheet.

Problem 25-4. The trial balances of a parent and its 80%-owned subsidiary are presented below. The investment was acquired at the beginning of the current year.

Trial Balances
December 31, 1961

	Red Company	Green Company
Debits		
Cash	37,000	22,000
Accounts receivable—net	29,890	42,400
Advances to subsidiary	15,000	
Inventory	36,000	43,300
Investment in Green Company (80%)	90,760	
Equipment	64,000	40,000
Dividends	9,000	3,600
Cost of goods sold	235,000	137,500
Depreciation expense	7,680	4,800
All other expenses	97,320	85,000
	621,650	378,600
Credits		
Accounts payable	33,095	8,250
Advances from parent		15,000
Accumulated depreciation	21,300	18,900
Capital stock	150,000	90,000
Retained earnings—December 31, 1960	64,375	14,450
Sales, including intercompany sales of $20,000	350,000	232,000
Dividends from subsidiary	2,880	
	621,650	378,600

Additional information:

The advances are noninterest-bearing.

The excess of cost over book value was attributable to a belief on the part of the parent company that a portion of the equipment of the subsidiary was worth more than its carrying value. The equipment thus undervalued in terms of market values had a remaining useful life of six years when the parent acquired its interest in the subsidiary.

Intercompany profit in December 31, 1961 inventory of Red Company—$400.

Required:

Consolidated working papers, following the entity theory.

Consolidated balance sheet.

Problem 25-5. Refer to Problem 22-9. Prepare the Minority Interest section of the December 31, 1962 consolidated balance sheet in accordance with the entity theory.

Problem 25-6. From the following condensed balance sheets on December 31, 1961, prepare working papers for a consolidated balance sheet.

	Company A	Company B	Company C	Company D
Current assets	$ 45,000	$35,000	$12,000	$ 40,000
Fixed assets	65,000	50,000	70,000	75,000
Investment in subsidiaries (100%):				
Company *B*	50,000			
Company *C*	40,000			
Company *D*	60,000			
	$260,000	$85,000	$82,000	$115,000
Current liabilities	$ 18,000	$19,000	$37,000	$ 12,000
Capital stock—$10 stated value	250,000		50,000	
Capital stock—no par		45,000		70,000
Paid-in surplus	20,000		5,000	
Retained earnings (deficit*)	28,000*	21,000	10,000*	33,000
	$260,000	$85,000	$82,000	$115,000

The subsidiaries were acquired four years ago in a pooling of interests. Prior to the issuance of Company *A* shares to the stockholders of Companies *B*, *C*, and *D*, 10,000 shares of Company *A* stock were outstanding, having been issued for $120,000 cash.

Subsidiary earnings and dividends during the past four years were:

	Company B	Company C	Company D
Net income:			
1958	$ 6,000	$4,000	$ 8,000
1959	8,000	5,000	10,000
1960	10,000	7,000	14,000
1961	7,000	5,000	11,000
Dividends:			
1958	7,500		10,000
1959	7,500		10,000
1960	7,500	2,000	10,000
1961	7,500	2,000	10,000

Problem 25-7. Top Company acquired its interest in affiliated companies by the following purchases:

Date	Company	Interest	Cost
January 1, 1961	Side	40%	$20,000
June 30, 1961	Bottom	50%	16,000
June 30, 1962	Side	50%	30,000

Top Company uses the equity method to account for its investments in affiliated companies. Bottom Company is jointly owned with Summit Company.

	Income Statements—1962 Top	Side	Bottom
Sales	$400,000	$200,000	$150,000
Cost of sales	260,000	130,000	94,000
Gross profit	$140,000	$ 70,000	$ 56,000
Expenses	110,000	52,000	51,000
Net income from operations	$ 30,000	$ 18,000	$ 5,000
Subsidiary income	14,200		
	$ 44,200	$ 18,000	$ 5,000

In December of 1962, Side Company and Bottom Company declared and paid dividends of $6,000 and $3,000, respectively.

The results of intercompany sales are shown below:

Seller	Purchaser	1962 Sales	Intercompany Profit in Dec. 31, 1962 Inventories
Top	Bottom	$10,000	$800
Top	Side	8,000	500
Side	Bottom	4,000	-0-

The companies use the first-in, first-out inventory method, and all merchandise acquired prior to August 15, 1962, has been sold.

You may assume that the net income is earned evenly during the year.

Prepare a consolidated income statement for 1962.

Problem 25-8. Solve Problem 20-10 following the entity theory.

Problem 25-9. Square Company on January 1, 1960, acquired 90% of the capital stock of Double Company and on January 1, 1962, 80% of the capital stock of Single Company. Following are the trial balances of the companies as of December 31, 1962:

Debits	Square Company	Double Company	Single Company
Cash	60,500	18,000	18,500
Accounts receivable—Customers	132,500	87,000	20,000
Current account—Double Company	30,000		
Current account—Single Company	7,500	6,000	
Inventories:			
Materials	175,000	30,000	32,000
In process	140,000	20,000	20,000
Finished goods	130,000	25,000	15,000
Prepaid expenses	7,000	4,000	2,000
Investments:			
Double Company stock (90%)	198,000		
Single Company stock (80%)	40,000		
Land	20,000	5,000	10,000
Buildings	50,000	40,000	20,000
Machinery and equipment	225,000	180,000	60,000
Cost of goods manufactured and sold	2,166,500	991,600	442,500
Sales returns and allowances	10,000	4,000	2,000
Selling expense	100,000	60,000	25,000
General and administrative expense	75,000	40,000	25,000
Dividends paid		20,000	5,000
	3,567,000	1,530,600	697,000
Credits			
Accounts payable	75,000	70,600	60,000
Current account—Square Company		10,000	7,500
Current account—Double Company			4,000
Accrued accounts	154,500	46,500	19,500
Allowance for bad debts	2,500	1,500	1,000
Accumulated depreciation	75,000	60,000	35,000
Sales	2,600,000	1,120,000	510,000
Rent of sales display equipment to Single Company		2,000	
Capital stock	500,000	200,000	50,000
Retained earnings (December 31, 1961)	160,000	20,000	10,000
	3,567,000	1,530,600	697,000

During the year 1962, Single Company sold to Square Company $150,000 worth of goods and to Double Company, $100,000. Double Company sold to Square

Company goods in the amount of $400,000. Intercompany profit in ending inventories resulting from such sales amounted to $600 on sales by Single Company and $1,000 on sales by Double Company.

The rental charge on sales display equipment rented from Double Company has not been recorded by Single Company. Also, there is $20,000 of cash in transit from Square Company to Single Company to bolster the latter's cash position.

The excess of cost over book value in connection with the investment in Double Company was considered to be 90% of the value of a patent on a special packaging device held by Double Company which had a remaining legal life of five years as of January 1, 1960. Double Company had been conservative and had fully amortized the patent to selling expense in ten years.

The excess of book value over cost in connection with the investment in Single Company was attributable to the fact that the parent company considered the January 1, 1962 in-process inventory to be overvalued. The inventory was completed and sold during 1962.

Each prior year, the parent company had taken up in the investment account its share of the subsidiary's earnings. Such entry had not yet been made for 1962. All dividends received, including those received from both companies in 1962, had been credited to the respective investment accounts.

Prepare the Income Statement section of the 1962 consolidated working papers, assuming that Single Company is not to be included in the consolidated statements and that the entity theory is to be followed.

Problem 25-10. The trial balances of Company *A* and its subsidiaries on December 31, 1962 are shown on the opposite page.

Company *A* purchased 80% and 90% of the stock issues of Companies *B* and *C*, respectively, on January 1, 1962, for book value. At the end of the year, each of the three companies paid a 10% dividend. The various entries for the dividends were the only entries affecting the retained earnings accounts during the year. On December 31, 1961, Company *A*'s inventory of materials included goods purchased from Company *B* at a price of $50,000, the cost thereof being $40,000 to Company *B*. On the same date, Company *B*'s inventory included materials purchased from Company *C* for $75,000 which cost *C* $50,000.

During 1962, Company *C* sold goods to Company *B* at a price of $150,000. These goods cost *C* $140,000. Company *B* still owes $25,000 on these purchases, the liability being included in the accounts payable. During 1962, Company *B* sold goods to Company *A* which cost $275,000 at a selling price of $300,000. Company *A* made cash advances totalling $400,000 to Company *B* during the year. The sales just mentioned were charged against the advances account, the $100,000 balance of which is included in Company *B*'s accounts payable.

The inventories on December 31, 1962 were:

Company	Materials	Goods in Process	Finished Goods
A	$310,000	$105,000	$145,000
B	185,000	90,000	155,000
C	220,000	95,000	115,000

The inventories on December 31, 1962, include intercompany profits as follows:

	Profit Made By	
	Company *B*	Company *C*
Materials	$25,000	$35,000
Goods in process	7,000	8,000
Finished goods	3,000	4,000

Trial Balances—December 31, 1962

Debits	Company *A*	Company *B*	Company *C*
Cash	178,250	70,000	80,000
Accounts receivable	330,000	170,000	400,000
Notes receivable	190,000	50,000	30,000
Inventories—December 31, 1961:			
Materials	155,000	110,000	165,000
Goods in process	100,000	75,000	90,000
Finished goods	70,000	60,000	65,000
Plant and equipment	910,000	410,000	580,000
Investment in stock of Company *B*	724,000		
Investment in stock of Company *C*	969,750		
Purchases—Materials	645,000	395,000	505,000
Labor and manufacturing expenses	640,000	510,000	575,000
Selling expenses	95,000	50,000	85,000
Administrative expenses	35,000	15,000	25,000
Dividends paid	300,000	50,000	80,000
	5,342,000	1,965,000	2,680,000
Credits			
Sales	1,370,000	1,020,000	1,220,000
Subsidiary income:			
Company *B*	188,000		
Company *C*	126,000		
Notes payable	100,000	30,000	50,000
Accounts payable	130,000	135,000	280,000
Bonds payable	500,000		
Accumulated depreciation	100,000	60,000	112,500
Capital stock	2,500,000	500,000	800,000
Retained earnings	328,000	220,000	217,500
	5,342,000	1,965,000	2,680,000

(a) Submit working papers that would be helpful in the preparation of combined statements for the two subsidiaries. You may assume that there are good reasons why the subsidiaries should not be consolidated.

(b) Show how the investments in the subsidiaries should be reported in the balance sheet of Company *A* for December 31, 1962.

Assignment Material for Chapter 26

Problems

Problem 26-1. Acme Company owns 80% of the stock of Baker Company, which in turn owns 20% of the stock of Acme Company. The net income of each company for 1961 is shown below.

Acme Company	$60,000
Baker Company	20,000

No dividends were declared during 1961, and both companies carry their investments at cost.

Compute the consolidated net income for 1961.

Problem 26-2. Home Company acquired 90% of the capital stock of Rome Company on July 1, 1958. On January 2, 1959, Rome Company purchased 70% of the outstanding stock of Nome Company. On December 31, 1959, Nome Company acquired a 10% interest in Rome Company.

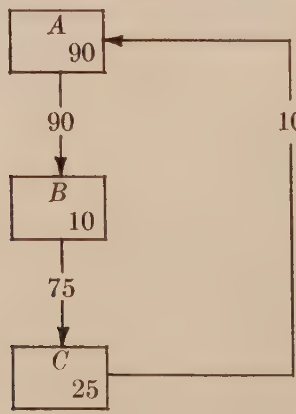
Analyses of the Retained Earnings accounts of the affiliated companies for the year ended December 31, 1961, are presented below.

	Retained Earnings		
	Home Company	Rome Company	Nome Company
Balance—December 31, 1960	$ 80,000	$60,000	$30,000
Add net income	36,000	30,000	18,000
Total	$116,000	$90,000	$48,000
Deduct cash dividends declared and paid	25,000	20,000	10,000
Balance—December 31, 1961	$ 91,000	$70,000	$38,000

Each company carries the investment in the stock of the other company at cost.

Compute the apportionment of the net incomes of the affiliated companies between consolidated net income and minority interest.

Problem 26-3. The intercompany stockholdings on December 31, 1961, among a group of affiliated companies are set forth in the following chart:



The investments are carried at cost. There has been no change in the intercompany stockholdings since *C* acquired its investment in *A* on June 30, 1958.

The net incomes of the affiliated companies and the dividends declared by them during the year ended December 31, 1961, were:

Company	Net Income	Dividends Declared and Paid
A	$118,400	$50,000
B	68,600	20,000
C	50,900	20,000

C's December 31, 1961 inventory includes merchandise purchased from *B* at a profit to *B* of $600.

Compute the consolidated net income for 1961 and the minority interest in the 1961 net income of the affiliated companies.

Problem 26-4. As of December 31, 1961, Carton Company, Container Company, and Box Company are affiliated as a result of the following stockholdings:

Investment By	Investment In	Per Cent	Date Acquired
Carton Company	Container Company	80%	January 2, 1959
Container Company	Box Company	80%	December 31, 1960
Box Company	Container Company	10%	July 1, 1959

The following account is taken from the ledger of Carton Company.

Investment in Stock of Container Company

1/ 2/59	Cost	98,000	12/15/59	Dividend	6,400
12/31/59	Income	8,000	12/15/60	Dividend	8,000
12/31/60	Income	9,600	12/15/61	Dividend	8,000
12/31/61	Income	12,000			

Container Company and Box Company maintain their investment accounts at cost. Box Company has not declared a dividend since 1958. There is intercompany profit in the December 31, 1961 inventory of Box Company. The goods were sold initially to Container Company by Carton Company at a profit of $400. Container Company in turn sold the goods to Box Company at a profit of $600.

The following data are taken from the 1961 unconsolidated income statements of the companies.

Company	Net Income	Net Loss
Carton Company	$26,500	
Container Company	15,000	
Box Company		$4,000

Compute the consolidated net income for 1961 and the minority interest in the 1961 net income of the affiliated companies.

Problem 26-5. On December 31, 1961, Patterson Corporation owned 80% of the stock of Fairview Company; Fairview Company owned 90% of the stock of Dennis Company; and Dennis Company owned 10% of the stock of Patterson Corporation. These affiliation relationships have existed for several years.

For the year ended December 31, 1961, the net incomes of the affiliated companies, exclusive of dividends received from affiliated companies, were:

Patterson Corporation	$85,800
Fairview Company	41,500
Dennis Company	30,600

On December 31, 1960, the inventory of Fairview Company included goods purchased from Patterson Corporation. The intercompany profit was $600.

On December 31, 1961, the inventory of Patterson Corporation included goods purchased from Dennis Company. The intercompany profit was $400.

Compute the consolidated net income and the minority interest in the net income of the affiliated companies for the year ended December 31, 1961. Carry computations to the nearest dollar.

Problem 26-6. Following are the condensed balance sheets of several affiliated companies on December 31, 1961:

Assets	Company *A*	Company *B*	Company *C*	Company *D*
Sundry assets	$200,000	$150,000	$100,000	$100,000
Investment in Company *B* (at 12)	76,800			
Investment in Company *C* (at 11)	49,500			
Investment in Company *D* (at 10)		35,000		
Investment in Company *B* (at 11)				8,800
	$326,300	$185,000	$100,000	$108,800
Liabilities and Stockholders' Equity				
Liabilities	$ 90,000	$ 85,000	$ 40,000	$ 43,800
Capital stock—$10 par value	200,000	80,000	50,000	50,000
Retained earnings	36,300	20,000	10,000	15,000
	$326,300	$185,000	$100,000	$108,800

Assuming that there were zero balances in the Retained Earnings accounts at the dates of acquisition of intercompany holdings, and that investment accounts are carried at cost, compute the consolidated retained earnings and minority interests as of December 31, 1961.

Problem 26-7. The accounts below are taken from the ledgers of two affiliated companies.

Company P—Retained Earnings

12/15/59	Dividend	10,000	12/31/58	Balance	80,000
12/15/60	Dividend	10,000	12/31/59	Net income	15,000
12/15/61	Dividend	10,000	12/31/60	Net income	18,000
			12/31/61	Net income	20,000

Company S—Retained Earnings

12/10/59	Dividend	6,000	12/31/58	Balance	50,000
12/10/60	Dividend	6,000	12/31/59	Net income	8,000
12/10/61	Dividend	6,000	12/31/60	Net income	10,000
			12/31/61	Net income	9,000

The affiliated relationship was the result of the following:

On December 31, 1958, Company *P* purchased 80% of the outstanding stock of Company *S*.

On December 31, 1959, Company *S* purchased 10% of the outstanding stock of Company *P*.

Company *P* regularly sells merchandise to Company *S*. As a result, there were intercompany profits in the inventories of Company *S* in the following amounts:

Date	Intercompany Profit
December 31, 1959	$-0-
December 31, 1960	900
December 31, 1961	500

Compute the consolidated retained earnings as of December 31, 1961.

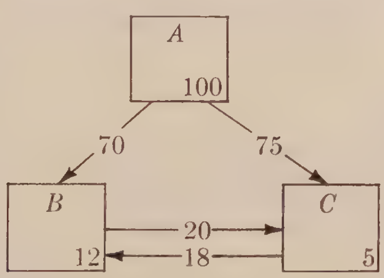
Problem 26-8. Hooper Company acquired 90% of the capital stock of Wayne Company on December 31, 1957. On December 31, 1959, Wayne Company acquired 15% of the capital stock of Hooper Company. Data from the ledgers of the affiliated companies are presented below.

	Retained Earnings	
	Hooper Company	Wayne Company
Balance—December 31, 1957	$10,000	$ 2,000
Balance—December 31, 1958	$15,600	$ 4,500
Balance—December 31, 1959	$21,870	$ 8,960
Balance—December 31, 1960	$28,430	$12,190
Add net income	41,200	18,650
Total	$69,630	$30,840
Deduct cash dividends declared and paid	20,000	8,000
Balance—December 31, 1961	$49,630	$22,840

Each company carries the investment in the stock of the other company at cost.

Prepare the consolidated statement of retained earnings for the year ended December 31, 1961.

Problem 26-9. Companies *A*, *B*, and *C* were related in the manner indicated by the following chart.



The investments by Company *A* were made several years ago at book value. The investments by Companies *B* and *C* were made as of December 31, 1960.

The December 31, 1961 trial balances are shown on page 784.

As a result of purchases from Company *C*, there were intercompany profits in the inventories of Company *B*, as follows:

December 31, 1960	$800
December 31, 1961	300

During 1961, Company *B* purchased $6,000 worth of goods from Company *C*.

Prepare consolidated working papers for 1961, in statement form. Amounts shown in working papers should be those resulting from rounding off pennies to the nearest dollar.

Trial Balances—December 31, 1961

	Company		
Debits	*A*	*B*	*C*
Cash	15,000	9,140	8,000
Inventory—December 31, 1961	26,700	18,620	15,000
Investments (at cost):			
In Company *B*	84,000		30,000
In Company *C*	82,500	28,240	
Other assets	116,000	124,400	110,200
Dividends declared	15,000	10,000	5,000
Cost of goods sold	210,000	170,000	168,200
Operating expenses	60,000	30,000	25,300
	609,200	390,400	361,700
Credits			
Accounts payable	12,450	9,400	9,900
Capital stock	200,000	100,000	100,000
Retained earnings—December 31, 1960	86,000	60,000	42,000
Sales	300,000	220,000	208,000
Dividend income:			
From Company *B*	7,000		1,800
From Company *C*	3,750	1,000	
	609,200	390,400	361,700

Problem 26-10. The December 31, 1961 trial balances of Randolph Company and Wilson Company are presented below.

Randolph Company purchased its investment in Wilson Company on December 31, 1956, when Wilson Company had retained earnings of \$10,800. Wilson Company purchased its holdings of the stock of Randolph Company on December 31, 1958, when the retained earnings of Randolph Company were \$21,400 and those of Wilson Company were \$22,500.

Trial Balances—December 31, 1961

Debits	Randolph Company	Wilson Company
Cash	29,100	7,186
Accounts receivable	47,600	34,900
Inventory—December 31, 1961	40,200	32,600
Investment in Wilson Company (80%)—at cost	129,900	
Investment in Randolph Company (15%)—at cost		34,614
Furniture and fixtures	215,500	145,600
Cost of goods sold	710,600	492,800
Operating expenses	139,400	66,700
Dividends paid	30,000	15,000
	1,342,300	829,400
Credits		
Accumulated depreciation	106,800	23,400
Accounts payable	61,600	16,900
Capital stock	200,000	150,000
Retained earnings—December 31, 1960	64,500	48,400
Sales	897,400	586,200
Dividends received	12,000	4,500
	1,342,300	829,400

Prepare consolidated working papers for the year ended December 31, 1961, in statement form. Do not use pennies in the working papers.

Data for Problems 26-11 and 26-12

Trial Balances
December 31, 1961

Debits	Paul Company	Sam Company	George Company
Cash	17,400	13,800	36,500
Accounts receivable	21,200	13,400	20,300
Inventory—December 31, 1961	34,000	22,100	30,000
Investment in Sam Company:			
By Paul Company (80%)	176,000		
By George Company (10%)			23,000
Investment in George Company (80%)		120,000	
Equipment	250,000	200,000	160,000
Cost of goods sold	200,000	170,000	140,000
Operating expenses	80,000	65,000	50,000
Dividends	10,000	8,000	5,000
	788,600	612,300	464,800
Credits			
Accounts payable	22,200	18,300	12,000
Accumulated depreciation	110,000	90,000	112,000
Capital stock	250,000	200,000	100,000
Retained earnings—December 31, 1960	100,000	50,000	40,000
Sales	300,000	250,000	200,000
Dividend income	6,400	4,000	800
	788,600	612,300	464,800

The investments are stated at cost.
Additional data regarding the investments:

Investment By	Investment In	Date	Cost	Book Value Acquired
Paul Company	Sam Company	Dec. 31, 1958	$176,000	$176,000
Sam Company	George Company	Dec. 31, 1959	120,000	100,000
George Company	Sam Company	Dec. 31, 1959	23,000	23,000

Problem 26-11. The data presented above are to be used in solving this problem.

The excess of cost over book value at acquisition was assignable to the equipment owned by George Company. You may assume that all of the equipment was acquired at the same time. George Company depreciates its equipment over a ten-year period, and it was decided that the excess should be written off over the remaining life of the equipment. This policy has been followed in the preparation of consolidated financial statements.

In 1961 the companies adopted a new policy, whereby intercompany sales were billed at cost, thus avoiding any intercompany profit in inventories. However, there was intercompany profit of $600 in the December 31, 1960 inventory of Sam Company as a result of purchases from George Company during 1960. The intercompany sales during 1961 amounted to $40,000, all billed at cost.

Prepare consolidated working papers for the year ended December 31, 1961, in statement form. Do not use pennies in the working papers.

Problem 26-12. Basic data for this problem are presented above Problem 26-11.

The excess of cost over book value should now be considered as representing an intangible asset of indefinite existence.

On July 1, 1960, George Company sold an item of equipment to Paul Company for $15,000 which was carried on the books of George Company at $12,000. Depreciation has been recorded on the books of Paul Company at 10% per annum, with allowance given for fractional periods.

The December 31, 1960 inventory of George Company included goods purchased from Sam Company on which Sam Company had made a profit of $4,600; Sam Company had purchased the goods from Paul Company at a profit of $3,000 to the latter company. During 1961, George Company purchased merchandise for $86,400 from Sam Company, of which $8,200 had not been paid for on December 31, 1961. George Company's December 31, 1961 inventory included merchandise sold by Sam Company at a profit of $2,400.

Prepare consolidated working papers for the year ended December 31, 1961, in statement form. Do not use pennies in the working papers.

Assignment Material for Chapter 27

Questions

Question 27-1. At what rates should the various accounts in the trial balance of a foreign branch be converted into dollars?

Question 27-2. Discuss the question of whether foreign exchange gains or losses arising from the conversion of account balances should be regarded as realized or unrealized.

Question 27-3. What entries should be made on the two sets of books to record goods sent by the home office to the foreign branch, and what exchange rate should be used for the conversion?

Question 27-4. If cash is remitted by a foreign branch to the home office, payable in foreign currency, how should the transaction be recorded on the two sets of books, and what rate of exchange should govern the conversion from foreign currency to dollars?

If the remittance was payable in dollars, what entries would be made on the two sets of books, and what rate should govern the conversion?

Question 27-5. Distinguish between a direct quotation and an indirect quotation of exchange rates.

Question 27-6. Name two ways in which an American exporter can eliminate the possibility of losses resulting from fluctuations in foreign exchange rates.

Question 27-7. Why would the use of current exchange rates for purposes of converting branch fixed assets be incompatible with conventional accounting theory regarding the valuation of fixed assets?

Question 27-8. Under what circumstances should the accounts of a foreign branch or subsidiary not be combined with those of the home office or parent?

Question 27-9. Give a critical evaluation of conventional conversion procedures as applied to long-term liabilities.

Question 27-10. How should losses attributable to a devaluation of a foreign money by government action be handled in the accounts of a United States parent corporation?

Problems

Problem 27-1. Import Distributing Company made the following purchases from Alps Company of Switzerland:

Date	Amount Swiss Francs	Exchange Rate at Date of Sale
May 6	69,210	$.2307
June 1	92,040	.2301
June 20	80,920	.2312

The entire amount payable was paid by Import Distributing Company on July 1, when the exchange rate was $.2300.

Prepare journal entries, omitting explanations, on the books of both companies to record the above transactions, assuming that:

(a) Billings were made in Swiss francs.
(b) Billings were made in United States dollars on the basis of the exchange rate prevailing on the transaction dates as listed above.

Problem 27-2. Higgins Company of Los Angeles operates a branch in Toronto, Canada. The following trial balances, stated in Canadian dollars, were taken from the branch records.

	December 31,			
	1960 (After Closing)		1961 (Before Closing)	
Home office current		9,000		49,000
Inventory	5,000		5,000	
Shipments from home office			40,000	
Sales				47,500
Sales allowances			750	
Expenses			2,500	
Cash	1,000		2,000	
Remittances to home office			41,500	
Accounts receivable	3,000		4,750	
	9,000	9,000	96,500	96,500

All sales were made on account. The branch makes its own disbursements for expenses.

The home office trial balance on December 31, 1961, was as follows:

HIGGINS COMPANY
Trial Balance
December 31, 1961

Branch current	52,980	
Inventory—December 31, 1960	12,500	
Purchases	90,000	
Sales		60,000
Shipments to branch		41,600
Sales allowances	1,100	
Expenses	6,250	
Cash	8,900	
Remittances from branch		43,575
Accounts receivable	1,300	
Accounts payable		2,750
Capital stock		20,000
Retained earnings		5,105
	173,030	173,030

There were no shipments or remittances in transit as of December 31, 1961.

Submit summary journal entries in parallel columns recording on the branch books and the home office books the transactions of the branch (including those with the home office).

Problem 27-3. Prepare entries for the home office books and the branch books, in general journal form, to record the transactions, on the following page,

relating to Martin Company and its branch office in Odense, Denmark. All exchange rates given are for kroner, expressed in terms of dollars.

(1) Merchandise, with a cost of $18,200, was sent to the branch when the exchange rate was .14.
(2) Merchandise was purchased by the branch on account at a cost of 98,200 kroner.
(3) The branch remitted 105,000 kroner to the home office when the exchange rate was .15.
(4) Expenses amounting to 22,000 kroner were paid by the branch in cash.
(5) A draft for $7,200 was sent to the branch when the exchange rate was .16.
(6) Sales were made by the branch on account amounting to 226,000 kroner.
(7) Accounts payable aggregating 72,500 kroner were paid by branch disbursements.
(8) Collections of accounts receivable amounting to 194,000 kroner were made by the branch.
(9) The branch remitted 30,000 kroner to the home office when the exchange rate was .145.
(10) Merchandise with a cost of $9,750 was sent to the branch when the exchange rate was .156.

Problem 27-4. American Company opened a branch in Liverpool on January 1, 1961. Its transactions with the branch and the branch's own transactions during 1961 are summarized as follows:

(a) Remittances to the branch:
  Draft for £2,000, purchased at 2.81.
  Draft for $2,660, cashed by the branch at 2.80.
(b) Shipments to the branch:
  Merchandise costing $23,940, taken up by the branch at 2.80.
  Merchandise costing $35,125, taken up by the branch at 2.81.
(c) Sales by the branch:
  On account, £12,000.
  For cash, £8,000.
(d) Collections by the branch on account, £11,500.
(e) Branch fixed asset acquisitions (fixed asset accounts kept on branch books):
  Purchased by home office for cash, $987; rate, 2.82.
  Purchased by branch for cash, £2,700; rate, 2.79.
(f) Branch expenses:
  Paid in cash, £1,750.
  Not paid, £450.
(g) Cash remitted to home office:
  Draft for £5,000, cashed by home office at 2.79.
  Draft for $26,880, purchased at 2.80.
(h) Depreciation provided by branch, £305.
(i) Branch inventory, December 31, 1961, £7,500.

Make such entries as should appear on the books of the home office and the branch to record the foregoing transactions; prepare the December 31, 1961 trial balance of the branch and convert it to U. S. dollars; and close the branch books. The average rate is 2.81; the current rate, December 31, 1961, 2.80.

Problem 27-5. The December 31, 1961 trial balance of the Chicago branch of Lisbon Export Company is presented below.

CHICAGO BRANCH—LISBON EXPORT COMPANY
Trial Balance
December 31, 1961

	Dollars	
Cash	1,626	
Accounts receivable	5,020	
Allowance for doubtful accounts		204
Remittances to home office	16,250	
Inventory—December 31, 1960	6,066	
Fixtures and equipment	7,070	
Accumulated depreciation		1,414
Notes payable		4,000
Accrued interest on notes payable		60
Accounts payable		1,392
Remittances from home office		1,800
Home office current		19,200
Sales		15,220
Sales returns and allowances	304	
Shipments from home office	15,100	
Purchases	8,246	
Administrative and general expenses	7,030	
Selling expenses	5,643	
Depreciation expense	707	
Interest expense	228	
	73,290	73,290

The branch manager is new and is a native of Portugal. As an aid to his understanding of the accounting data of the branch, he asks you to convert the trial balance to escudos.

You may assume that the following information is accurate.

(1) Exchange rates—dollars per escudo:

December 31, 1960	.036
December 31, 1961	.040
1961 average	.038
When fixtures and equipment were acquired	.035

(2) Balances on home office records—December 31, 1961:

Branch current	482,000
Shipments to branch	385,100
Remittances to branch	45,000
Remittances from branch	410,000

Problem 27-6. Maxon Company has operated a branch in Holland for one year. The trial balances of the home office and its foreign branch are presented below and on the opposite page.

MAXON COMPANY
Trial Balance
December 31, 1961

Cash	17,500	
Accounts receivable	30,150	
Inventory—December 31, 1960	12,620	
Branch current	60,410	
Fixed assets—net	25,000	
Accounts payable		13,240

Remittances from branch		42,880
Capital stock		75,000
Retained earnings		6,510
Sales		82,270
Shipments to branch		67,680
Purchases	131,000	
Expenses	10,900	
	287,580	287,580
Inventory—December 31, 1961	$ 13,500	

HOLLAND BRANCH—MAXON COMPANY
Trial Balance
December 31, 1961

	Guilders	
Cash	16,800	
Accounts receivable	51,200	
Home office current		230,000
Remittances to home office	160,000	
Sales		296,000
Shipments from home office	270,750	
Expenses	27,250	
	526,000	526,000
Inventory—December 31, 1961	36,000	guilders

The current rate of exchange: $0.265.
Average rate for 1961: $0.260.

In the early part of the year, remittances were debited or credited to the current accounts. However, both the home office and the branch commenced the use of remittances accounts simultaneously as of March 1, 1961.

Prepare combined working papers.

Problem 27-7. Using the following data, prepare combined working papers and give the closing entries that would appear on the home office books, including the entry to pick up the net income or loss of the Australian branch for its first year of operations.

WASHINGTON COMPANY
Home Office and Australian Branch
Trial Balances
December 31, 1961

	Home Office (U. S. Dollars)		Branch (Australian Pounds)	
Cash	9,430		780	
Accounts receivable	6,700		800	
Notes receivable	2,000		300	
Accrued interest receivable	20		4	
Inventory—December 31, 1960	9,000			
Prepaid expenses	500		40	
Branch current	18,000			
Remittances to branch	1,115			
Remittances to home office			7,100	
Remittances from branch		15,904		
Remittances from home office				499
Home office current				8,000
Equipment	30,000		2,000	
Accumulated depreciation		6,000		200

WASHINGTON COMPANY
Home Office and Australian Branch
Trial Balances (Concluded)
December 31, 1961

	Home Office (U. S. Dollars)		Branch (Australian Pounds)	
Accounts payable		4,700		300
Capital stock		50,000		
Retained earnings		3,211		
Sales		54,000		15,000
Shipments from home office			8,000	
Shipments to branch		18,000		
Purchases	57,000		2,000	
Expenses (including depreciation)	18,100		3,000	
Interest earned		50		25
	151,865	151,865	24,024	24,024
Inventory—December 31, 1961	10,400		1,200	

Exchange rates for Australian pounds in terms of U. S. dollars:

Current rate: 2.25.
Average rate: 2.24.
December 31, 1960 rate: 2.23.

Dollar balance in memorandum column of Equipment account on books of Australian branch: $4,500.

Problem 27-8. Mining Supply Company has a wholly-owned subsidiary in Peru. The subsidiary was organized by the parent company and, until 1961, the parent used the equity method of accounting for its investment in the foreign subsidiary.

The December 31, 1961 trial balances of the companies are presented below.

	Mining Supply Company (Dollars)		Peruvian Company (Sols)	
Cash	15,465		621,342	
Accounts receivable	62,532		1,906,175	
Inventories—December 31, 1960	48,175		634,242	
Fixed assets—net	71,245		1,214,715	
Investment in Peruvian Company (book value, January 1)	117,940			
Dividends paid	10,000		60,000	
Peruvian Company—Current account	15,724			
Accounts payable		22,176		71,466
Mining Supply Company—Current account				463,214
Dividends received		1,644		
Capital stock		200,000		3,000,000
Retained earnings—December 31, 1960		74,432		410,480
Sales		652,248		8,123,746
Purchases	437,254		5,624,908	
Expenses	172,165		2,007,524	
	950,500	950,500	12,068,906	12,068,906
The closing inventories are:	49,650		688,880	

The following rates of exchange are given:

Date of acquisition	$.0354
December 31, 1960	.0303
December 31, 1961	.0269
Average during year	.0282

Conversion value of fixed assets: $31,750.

All of the purchases of the subsidiary were made from the parent company. However, you may assume that there was no intercompany profit in the inventories.

Prepare consolidated working papers.

Problem 27-9. The trial balances of a parent and its 80%-owned Canadian subsidiary are presented below. The investment was acquired at the beginning of the current year, 1961, from a group of American investors for U. S. dollars.

Trial Balances
December 31, 1961

Debits	South Company	North Company (Canadian Dollars)
Cash	25,000	10,000
Accounts receivable—net	55,300	16,800
Inventory—December 31, 1960	56,400	30,000
Investment in North Company	129,240	
Other assets	180,000	105,000
Dividends	9,000	4,500
Purchases	270,800	135,000
Expenses	149,000	82,100
Exchange	1,200	
	875,940	383,400
Credits		
Accounts payable	19,160	8,400
Capital stock	300,000	90,000
Retained earnings	125,020	70,000
Sales	428,000	215,000
Dividends from subsidiary	3,760	
	875,940	383,400

Additional information:

Inventory—December 31, 1961	$ 58,100	$ 33,400
Intercompany sales by North Company		24,000
Rates of exchange for Canadian dollars:		
December 31, 1960	$1.04	
December 31, 1961	1.055	
1961 Average	1.05	

The excess of book value over cost was attributable to a belief on the part of the management of South Company that the December 31, 1960 inventory of North Company was overvalued because of style obsolescence. All such goods were disposed of during 1961.

All intercompany sales were billed to South Company in Canadian dollars and recorded in the accounts of South Company in Canadian dollars. Such goods were priced at 120% of cost. When the invoices were settled, and all of them have been settled, the additional U. S. dollars required to obtain needed Canadian dollars were charged to Exchange. Ten per cent of the goods purchased from North

Company remain in the December 31, 1961 inventory; they are priced in the inventory at $2,400.

Required:

Consolidated working papers, with pennies dropped.

Problem 27-10. Trial balances as of December 31, 1960 of Parent Company and its two subsidiaries are presented below.

	Parent Company (Dollars)		Domestic Subsidiary (Dollars)		Foreign Subsidiary (Wampa)	
Cash	10,000		1,500		10,000	
Accounts receivable—Trade	30,000		8,000		35,000	
Accounts receivable—Merchandise in transit to domestic subsidiary	4,000					
Inventories	20,000				83,000	
Investments at cost:						
Domestic subsidiary—900 shares acquired December 31, 1959	9,000					
Foreign subsidiary—1,000 shares acquired December 31, 1959	12,000					
Fixed assets	45,000		3,500		175,000	
Goodwill			2,000			
Cost of sales	300,000		15,000		300,000	
Depreciation	3,000		200		7,000	
Taxes—paid quarterly	15,000		400		15,000	
Selling expenses	42,000		2,400		27,000	
Administrative and general expenses	35,000		2,000		18,000	
Dividends declared			1,000			
Sales—Trade		400,000		21,000		381,000
Sales—Domestic subsidiary		10,000				
Accounts payable—Trade		25,000				7,000
Dividend payable				1,000		
Long-term debt due January 1, 1963						100,000
Reserve for depreciation		15,000		2,000		75,000
Capital stock		50,000		10,000*		100,000*
Retained earnings—December 31, 1959		25,000		2,000		7,000
	525,000	525,000	36,000	36,000	670,000	670,000

* 1,000 shares issued and outstanding.

On April 1, 1960, the monetary unit of the foreign country, wampum, was devalued from U. S. $.12, the prevailing rate of exchange on December 31, 1959, to $.08, which was the prevailing rate of exchange on December 31, 1960.

There were no additions to or disposals of fixed assets of the foreign subsidiary during 1960.

The business of the foreign subsidiary is nonseasonal.

Prepare an estimate of the gain or loss to Parent Company resulting from the devaluation.

Assignment Material for Chapter 28

Questions

Question 28-1. A municipality sells its bond issue of $100,000 for water works purposes, receiving par plus a 2% premium and $500 accrued interest. How much of the proceeds can the municipality use for construction purposes? Explain.

Question 28-2. In auditing the annual report of the town of *X*, you find all of the following items of receipts stated under the general heading "Revenues":

1. Loan from Bank of *X*.
2. Dog licenses.
3. Municipal court fines.
4. Bequest from the estate of *A* to establish town library.
5. Street assessments collected from owners of property.
6. Permits for parades.
7. State grant for upkeep of a state highway within town limits.
8. Interest on bank deposits.
9. Donation from *C* toward repairs on his street.
10. Annual payment under franchise by *X* Bus Company.
11. Fees turned in by town clerk.
12. Rent of city dock to River Barge Company.
13. Assessments on members of police force for pension fund.
14. Newsstand privilege in city hall.

Indicate which of the above items should not be classified as "Revenues" and give a reason in each instance.

Question 28-3. The town of *X* erects a school building from the proceeds of bonds issued for the purpose. It is estimated that the building will last 20 years. The bonds also mature in 20 years and contain a sinking fund clause to provide the funds for their payment at maturity. The school board makes no provision for depreciation on the building in the annual tax rate, and a controversy arises in the town about whether such a provision should be made. Discuss briefly both sides of this question.

Question 28-4. Give a definition of a fund.

Question 28-5. Why is it necessary to maintain a separate group of accounts for each fund?

Question 28-6. Explain the operation of encumbrance accounts.

Question 28-7. Why are fixed assets excluded from the general fund accounts?

Question 28-8. What are budgetary accounts?

Question 28-9. What is a "working capital" fund?

Problems

Problem 28-1. Present entries in general journal form to record the selected transactions stated on the following page. Omit explanations.

Fund	Transaction
	Estimated revenues for the fiscal year:
General	$250,000
Special Revenue	40,000
Special Assessment	A $30,000 expenditure for a local improvement is authorized.
	Appropriations for the fiscal year:
General	$248,000
Special Revenue	39,500
General	Tax levy for the fiscal year, of which 99% is believed to be collectible: $200,000.
General	Taxes are collected: $150,000.
General Special Revenue	A loan of $15,000 is made to the special revenue fund.
General	Orders are placed in the amount of $18,000.
General	The items ordered above are received. The cost amounts to $18,050, and vouchers for that amount are certified.
Bond	Bonds with a par value of $50,000 are authorized.
General Stores	Materials are requisitioned from the stores fund in the amount of $800.
General Sinking	Pursuant to an appropriation, a $5,000 payment is made to the sinking fund.
General Property and General Bonded Debt	A cash payment of $14,000 was made for the purchase of equipment. (Make two entries in the general fund.)
General	Licenses are collected in the amount of $2,700.
Bond	A construction contract is signed; the estimated cost is $42,000.
Special Assessment	Vouchers for miscellaneous construction costs are certified; the amount is $1,230.
Property and General Bonded Debt	Property costing $33,000 is retired from use.
Property and General Bonded Debt	Improvements carried in the accounts as "in progress" are now completed. The amount is $23,400.
Trust	The trust fund collects $2,500 of expendable income.
General	Taxes receivable in the amount of $1,000 become delinquent. It is estimated that one-fourth of this amount may never be collected.
Special Assessment General	A collection of $10,000 is received from the general fund to apply against the amount assessed as a public improvement.
Sinking	Securities are acquired for $13,000.

Problem 28-2. In the city of Arbor, a special revenue fund was established as of July 1, 1960. The estimated revenues for the fiscal year were $325,000. As of July 1, 1960, a tax levy for the special revenue fund was made in the amount of $300,000. In the next several months, tax collections from this levy amounted to $295,000. $10,000 was borrowed from the general fund, and remains unpaid.

On July 15, 1960, an appropriation of $320,000 was made from this fund. During the succeeding months, vouchers were certified in the amount of $215,000, of which $208,000 was paid by the issuance of warrants. The Encumbrances account was debited for a total of $218,000 and credited for a total of $213,000 during the same period.

(a) Assuming that the above paragraphs summarize the transactions for the partial period ended April 30, 1961, prepare an interim balance sheet for the fund as of that date.

(b) Assuming that the above paragraphs summarize the transactions for an entire fiscal year, prepare closing entries. You may omit dates and explanations.

Problem 28-3. The following list of accounts is the result of combining the June 30, 1961 after-closing trial balances of three funds of the city of D. W. Prepare a combined balance sheet in columnar form showing the detail and the total for the three funds.

Taxes receivable—Current	$ 8,000
Due from other funds	16,000
Cash (total of 3 accounts)	33,000
Vouchers payable	16,000
Reserve for encumbrances	4,000
Investments (of which $22,500 belongs to the trust fund)	52,500
Tax anticipation notes payable	20,000
Reserve for retirement of sinking fund bonds	28,000
Permanent balance	25,000
Expendable balance	500
Unappropriated surplus (of which $12,000 belongs to the general fund)	16,000

Problem 28-4. The list of accounts below and on the following page is the result of combining the April 30, 1961 interim trial balances of three funds of Delta City. Prepare the separate balance sheets of the three funds.

Cash (total of 3 accounts—of which $30,000 belongs to the special assessment fund)	48,000	
Required contributions	54,000	
Contribution revenues		52,000
Improvements authorized	50,000	
Due to general fund		1,500
Reserve for retirement of sinking fund bonds		57,000
Taxes receivable—Current	1,500	
Allowance for uncollectible taxes		500
Encumbrances:		
Special revenue fund	1,000	
Special assessment fund	37,000	
Required earnings	3,000	
Earnings		3,000
Investments	45,000	
Reserve for encumbrances (total of 2 accounts)		38,000
Estimated revenues	15,000	
Revenues		12,000

Vouchers payable:		
Special revenue fund		1,000
Special assessment fund		2,000
Bonds payable		50,000
Unissued bonds	10,000	
Appropriations:		
Special revenue fund		14,500
Special assessment fund		50,000
Unappropriated surplus (total of 2 accounts)		1,500
Appropriation expenditures	5,500	
Construction expenditures	13,000	
	283,000	283,000

Problem 28-5. You are engaged to audit the accounts of Gulf City for the year ended June 30, 1960. The books show the following information as to the general fund:

Unappropriated surplus at beginning of year	$332,011
Taxes assessed	184,400
Other revenues collected	56,841
Appropriation expenditures, per vouchers approved	227,642
Unappropriated surplus at end of year	345,610

Upon investigation, you discover the following facts:

(a) The assets of the fund include the book value of permanent property, which on July 1, 1959, totaled $269,362 and on June 30, 1960, $286,962. The difference represents capital expenditures for the year charged direct to fixed asset accounts.

(b) On June 30, 1960, orders and contracts were outstanding estimated to cost $4,350, payable out of the appropriations for the fiscal year under audit.

(c) Taxes for the year were due May 1, but only 82% had been collected as of June 30. Estimates indicate that further collections will bring the total to not over 90%.

(d) Amounts due the sinking fund from the general fund for the year totaled $9,212, of which $6,000 was paid and included in appropriation expenditures.

(e) On July 15, 1960, a public benefit installment of $3,178 is due the special assessment fund. A similar installment, due July 15, 1959, was paid and entered as an appropriation expenditure for the year under audit.

(f) Included in the appropriation expenditures for the year under audit are the following sums paid for the benefit of departments supported entirely by special revenue funds: library, $1,687; parks, $2,143.

Does the unappropriated surplus at the beginning and the end of the year correctly indicate the amounts available for appropriation and expenditure on those dates? If not, prepare working papers showing the correct amounts.

Problem 28-6. The city of Boomtown entered into the following transactions during the year 1960:

(1) A bond issue was authorized by vote to provide funds for the construction of a new municipal building which it was estimated would cost $500,000. The bonds were to be paid in ten equal installments from a sinking fund, payments being due March 1 of each year. Any balance of the bond fund is to be transferred directly to the sinking fund. An appropriation of $500,000 was authorized.

(2) An advance of $40,000 was received from the general fund to provide for a required deposit of that amount on a contract for the purchase of land for $60,000. The deposit was made.
(3) Bonds of $450,000 were sold for cash at 102. It was decided not to sell all of the bonds because the cost of the land was less than was expected.
(4) Contracts amounting to $390,000 were left to Michela and Company, the lowest bidder, for the construction of the municipal building.
(5) The temporary advance from the general fund was repaid and the balance on the land contract was paid.
(6) On the basis of the architect's certificate, warrants were issued for $320,000 for the work completed to date.
(7) Warrants paid in cash by the treasurer amounted to $310,000.
(8) Owing to changes in the plans, the contract with Michela and Company was revised to $440,000; the remainder of the bonds were sold at 101.
(9) Before the end of the year, the building was completed and additional warrants amounting to $115,000 were issued to the contractor in final payment for the work. All warrants were paid by the treasurer.

Required:

(a) Record the above and closing entries in bond fund T-accounts. Designate the entries in the T-accounts by the numbers which identify the data.
(b) Prepare applicable fund balance sheets as of December 31, 1960, considering only the proceeds and expenditures from bond fund transactions.

Problem 28-7. (a) Rearrange the following balance sheet of the Town of *X* in acceptable form for municipal reporting.

TOWN OF X
Balance Sheet
June 30, 1961

Assets		
Current:		
Cash	$ 50,000	
Taxes receivable (including special assessments of $80,000)	100,000	
Investments of trust fund	30,000	$ 180,000
Fixed:		
Land	$100,000	
Buildings	800,000	
Equipment	50,000	950,000
		$1,130,000
Liabilities		
Current:		
Accounts payable—General fund		$ 10,000
Fixed:		
General obligations bonds payable	$350,000	
Special assessment bonds payable	75,000	425,000
Fund equities:		
General fund	$ 25,000	
Trust fund	40,000	
Bond fund	25,000	
Special assessment fund	5,000	
Property fund	600,000	695,000
		$1,130,000

(b) The Town of *X*, for which the balance sheet was prepared in part (a), will use budgetary accounts. You are to prepare the balance sheet for its general fund at the end of its first month of operation in its fiscal year starting July 1, 1961. The following events are to be considered:

(1) A budget was adopted which provided for property taxes of $210,000 for general municipal purposes and for estimated revenue from fees, etc., of $23,000. Appropriations were $180,000 for current operations, $20,000 for debt service, and $35,000 for street and other capital improvements.
(2) During July purchase orders of $9,400 were placed, $3,150 of which were received and vouchered at an actual net cost of $3,078. Pay roll amounting to $5,185 was vouchered and $14,000 of vouchers were paid.
(3) The tax roll was not completed; but $21,000 of 1960–1961 taxes were collected, $18,350 of which were special assessments. Miscellaneous fees, etc., collected amounted to $2,060.

Problem 28-8. The balance sheets for two of the funds of Atomic City are presented below.

ATOMIC CITY
General Fund
Balance Sheet
June 30, 1960

Assets		
Cash		$ 15,482.34
Taxes receivable:		
Year 1956–1957	$ 1,917.66	
Year 1957–1958	7,308.14	
Year 1958–1959	8,133.11	
Year 1959–1960	123,170.65	140,529.56
Deferred charges:		
Overexpenditures of 1959–1960 appropriations	$ 437.10	
Taxes cancelled—1959–1960	850.00	1,287.10
		$157,299.00
Liabilities and Surplus		
Tax anticipation notes:		
Year 1957–1958	$ 7,000.00	
Year 1958–1959	8,000.00	
Year 1959–1960	123,000.00	$138,000.00
Vouchers payable		17,601.00
Unappropriated surplus		1,698.00
		$157,299.00

ATOMIC CITY
Property and General Bonded Debt
Balance Sheet
June 30, 1960

Equipment	$185,345.00
Land and structures	456,789.00
	$642,134.00
Bonds payable	$100,000.00
Investment in general fixed assets	542,134.00
	$642,134.00

The governing body of the city adopted the following budget for 1960–1961:

Appropriations

Department of public works	$275,450.00
Department of revenue and finance	48,500.00
Department of public safety	335,375.00
Department of public affairs	190,000.00
Department of parks and public property	60,000.00
Interest on bonds	3,500.00
Retirement of bonds	7,000.00
Interest on notes	4,500.00
Overexpenditures of 1959–1960 appropriations	437.10
Taxes cancelled—1959–1960	850.00
	$925,612.10

Anticipated Revenues

General licenses	$ 9,700.00
Liquor licenses	63,000.00
Interest on taxes	22,000.00
City clerk's fees	700.00
Building permits	2,500.00
Bureau of health fees	5,400.00
Police court fines	3,000.00
Sale of old equipment	1,000.00
	$107,300.00
Amount to be raised by taxation	818,312.10
	$925,612.10

The actual amount of taxes levied for the year 1960–1961 was $818,603.75. A statement of receipts and disbursements for the 1960–1961 year follows:

Receipts

1956–1957 taxes	$ 1,012.75
1957–1958 taxes	5,475.63
1958–1959 taxes	6,125.47
1959–1960 taxes	115,245.78
1960–1961 taxes	587,375.62
General licenses	9,754.00
Liquor licenses	63,125.00
Interest on taxes	21,900.00
City clerk's fees	725.00
Building permits	2,530.00
Bureau of health fees	5,350.00
Police court fines	2,925.00
Miscellaneous fees	250.00
Sale of old equipment (cost new, $6,000)	900.00
Tax anticipation notes—1960–1961	215,000.00
	$1,037,694.25

Vouchers Paid

Department of public works	$ 269,830.00
Department of revenue and finance	47,350.00
Department of public safety	325,250.00
Department of public affairs	187,325.00
Department of parks and public property	59,100.00

(*Continued on the following page*)

Interest on bonds	$	3,500.00
Retirement of bonds		7,000.00
Interest on notes		4,300.00
Tax anticipation notes—1957–1958		7,000.00
Tax anticipation notes—1958–1959		6,000.00
Tax anticipation notes—1959–1960		114,000.00
Vouchers certified for payment last year		17,601.00
		$1,048,256.00

The above disbursements include $55,000 spent for new equipment.

The following bills certified for payment applicable to the current year were unpaid on June 30, 1961:

Department of public works	$	4,000.00
Department of revenue and finance		1,000.00
Department of public safety		9,500.00
Department of public affairs		2,000.00
Department of parks and public property		700.00

Submit the journal entries, in summary form whenever convenient, applicable to the general ledger accounts for the 1960–1961 fiscal year for the two funds for which data are supplied. Also prepare closing entries.

Problem 28-9. From the following municipal trial balance at the close of the fiscal year ended June 30, 1961, but before closing the books, prepare working papers showing the balance sheet data by funds, after giving effect to necessary entries as of the close of the year and to settlements of all interfund current balances with the working capital fund.

	Debit	Credit
Accounts receivable, general fund	3,321.74	
Allowance for uncollectible taxes		2,875.00
Appropriations		300,000.00
Appropriation expenditures	296,055.81	
Assessments receivable	72,621.70	
Bonded debt, general		250,000.00
Bond fund cash	2,005.60	
Bond fund balance (unappropriated)		678.00
Bonds authorized and unissued	8,000.00	
Contracts payable, bond fund		4,700.00
Due stores and service fund from bond fund		1,227.60
Due stores and service fund from general fund		1,593.96
Due stores and service fund from other funds	2,821.56	
Encumbrances	2,827.10	
Estimated revenues	301,500.00	
Fixed property	897,640.00	
Fixed property (income-producing, trust fund)	62,000.00	
General fund cash	1,842.10	
Income account, sinking fund		1,960.00
Interest cost, special assessment fund	620.00	
Loan from general to stores and service fund	25,000.00	
Public benefit receivable, special assessment fund	6,400.00	
Reserve for encumbrances, general fund		2,827.10
Reserve for retirement of bonds		160,000.00
Revenues, general fund		300,896.00
Sinking fund cash	1,450.00	

	Debit	Credit
Sinking fund investments	160,000.00	
Sinking fund requirements	1,000.00	
Sinking fund surplus		490.00
Special assessment bonds		80,000.00
Special assessment fund cash	1,872.65	
Stores and service fund working capital (loan from general fund)		25,000.00
Stores and service fund cash	1,408.22	
Stores inventory	15,942.80	
Surplus, special assessment fund		1,514.35
Surplus invested in fixed assets		647,640.00
Taxes receivable, general fund	6,972.61	
Temporary loans, general fund		3,000.00
Trust fund balance		96,320.00
Trust fund cash	6,820.00	
Trust fund investments	27,500.00	
Unappropriated surplus		25,000.00
Vouchers payable, bond fund		3,400.00
Vouchers payable, general fund		1,327.30
Work in process, stores and service fund	4,827.42	
	1,910,449.31	1,910,449.31

Problem 28-10. From the following information concerning the operations of a special revenue fund of the city of Blank for the fiscal year ended April 30, 1961, prepare:

(a) Entry or entries to close the books of the fund for the year.
(b) A balance sheet of the fund as of April 30, 1961.

Information regarding the fund for the year ended April 30, 1961:

1. Unappropriated surplus at May 1, 1960, consisted entirely of cash	$ 2,350
2. Budget estimate of revenues	185,000
3. Budget appropriations	178,600
4. Tax levy, $115,620, against which a reserve of $4,000 is set for estimated losses in collection.	
5. Tax receipts, $112,246, with penalties of $310 in addition.	
6. Receipts from temporary loans, $20,000, all of which were repaid during period with interest of $300.	
7. Balance of encumbrances unliquidated, April 30, 1961	3,250
8. Vouchers approved for expense	146,421
9. Vouchers approved for capital expenditures	21,000
10. Vouchers approved for payment of bonds falling due during the year, $5,000, and for interest on bonds, $2,000.	
11. Miscellaneous revenue received	74,319
12. Rebate of current year's taxes collected prematurely	240
13. Warrants issued and payable on demand	169,400
14. Refund on an expense voucher on which an excess payment was made	116

Problem 28-11. The Area Recreational Authority was constituted about July 1, 1960, to carry out certain recreational activities for which the authority was to buy or construct the equipment.

It was decided that the accounts of the authority will show budgetary estimates as well as actual revenues and expenditures in an approved manner, and that the transactions will be recorded in the following funds:

General Fund	Sinking Fund
Working Capital Fund	Property and General Bonded Debt
Bond Fund	

Prepare a 10-column journal, allowing two money columns for each fund, and record therein the following transactions for the year ended June 30, 1961. You need not prepare your solution to account for details customarily maintained in subsidiary ledgers. You may omit explanations, but key the journal entries to the paragraph numbers in the problem.

(1) An advance of $50,000 was made to the working capital fund by the parent government creating the authority to finance the initial construction and activities, to be repaid out of operating revenues.

(2) From the working capital fund thus created, $10,000 was transferred to the general fund for current operating expenses until revenues could be realized.

(3) A budget of recreational activities for the year was adopted as follows:

Revenues	
Licenses	$ 50,000
Fees	100,000
Sales	30,000
Miscellaneous	10,000
	$190,000
Expenditures	
Administration	$ 10,000
Bathing pavilion	65,000
Boating	25,000
Park maintenance	54,000
Interest on bonds	6,000
Sinking fund requirements	20,000
	$180,000

(4) Purchases of supplies were made by the working capital fund for central stores to the amount of $36,000 and paid in full.

(5) A bond issue of $200,000 for improvements was authorized as of July 1, 1960, bearing interest at 3 per cent per annum, payable semiannually from the general fund. It was disposed of on August 1 at par and accrued interest of $500.

(6) The governing board appropriated the full $200,000 for recreational equipment and signed contracts amounting to $165,000. Work was completed and contracts were paid to the extent of $156,000, which included $1,000 of extras, leaving $10,000 in progress on June 30, 1961.

(7) Additional construction work on the recreational equipment was supplied through the working capital fund to the extent of $34,000, which included $20,000 of labor paid in cash, and $14,000 of material from stores at cost. The working capital fund was reimbursed in full by the bond fund for this service.

(8) Maintenance services (labor only) supplied to authority activities and paid for by the working capital fund were: Bathing pavilion, $3,300; boating, $1,100; and park maintenance, $5,720. Of the foregoing, park

maintenance in the amount of $2,200 was incomplete and not billed as of June 30, 1961. Otherwise, reimbursement to the working capital fund was completed by the general fund.

(9) Revenues collected during the year were as follows:

Licenses	$ 48,500
Fees	101,400
Sales	29,200
Miscellaneous	9,400
	$188,500

In addition, there was $1,600 of licenses billed but not collected, on which possible losses should not exceed 20 per cent.

(10) Supplies were issued to authority departments by the central stores as follows:

Administration	$ 330
Bathing pavilion	2,640
Boating	1,650
Park maintenance	6,930
	$ 11,550

Transfers were made to the working capital fund to the amount of $10,600 on account of these items.

(11) Contracts and orders issued during the year by the general fund for operating expenses totaled $83,000. These were completed to the extent of $81,160, leaving $1,200 for bathing pavilion and $640 for boating, or a total of $1,840 outstanding on June 30.

(12) Vouchers approved by the general fund during the year for pay rolls, invoices, and miscellaneous, including those covering contracts and orders completed, as well as other items, were as follows:

Administration	$ 9,450
Bathing pavilion	59,160
Boating	21,600
Park maintenance	41,000
Interest	6,000
	$137,210

Treasury warrants were issued and paid in settlement of these items to the amount of $135,610. When the bond interest was paid, the bond fund remitted to the general fund the $500 accrued interest collected when the bonds were issued.

(13) When the bonds were issued, it was determined that the requirements for the current year for the sinking fund were as follows:

Required contributions	$ 20,000
Required earnings	500

Transfer was made to the sinking fund in the amount of $20,000. Securities costing $18,000 were purchased for this fund, and income thereon was realized to the amount of $300. Among the securities purchased were authority bonds of $5,000, which were immediately retired.

(14) The sum of $5,000 was repaid to the working capital fund on the advance made to the general fund.

(15) Among the invoices paid during the year from the general fund were items totaling $16,540 for park maintenance equipment.

APPENDIX

Tables of Amounts and Present Values

n	½%	1%	1¼%	1½%	2%	2½%
1	1.0050 0000	1.0100 0000	1.0125 0000	1.0150 0000	1.0200 0000	1.0250 0000
2	1.0100 2500	1.0201 0000	1.0251 5625	1.0302 2500	1.0404 0000	1.0506 2500
3	1.0150 7513	1.0303 0100	1.0379 7070	1.0456 7838	1.0612 0800	1.0768 9063
4	1.0201 5050	1.0406 0401	1.0509 4534	1.0613 6355	1.0824 3216	1.1038 1289
5	1.0252 5125	1.0510 1005	1.0640 8215	1.0772 8400	1.1040 8080	1.1314 0821
6	1.0303 7751	1.0615 2015	1.0773 8318	1.0934 4326	1.1261 6242	1.1596 9342
7	1.0355 2940	1.0721 3535	1.0908 5047	1.1098 4491	1.1486 8567	1.1886 8575
8	1.0407 0704	1.0828 5671	1.1044 8610	1.1264 9259	1.1716 5938	1.2184 0290
9	1.0459 1058	1.0936 8527	1.1182 9218	1.1433 8998	1.1950 9257	1.2488 6297
10	1.0511 4013	1.1046 2213	1.1322 7083	1.1605 4083	1.2189 9442	1.2800 8454
11	1.0563 9583	1.1156 6835	1.1464 2422	1.1779 4894	1.2433 7431	1.3120 8666
12	1.0616 7781	1.1268 2503	1.1607 5452	1.1956 1817	1.2682 4179	1.3448 8882
13	1.0669 8620	1.1380 9328	1.1752 6395	1.2135 5244	1.2936 0663	1.3785 1104
14	1.0723 2113	1.1494 7421	1.1899 5475	1.2317 5573	1.3194 7876	1.4129 7382
15	1.0776 8274	1.1609 6896	1.2048 2918	1.2502 3207	1.3458 6834	1.4482 9817
16	1.0830 7115	1.1725 7864	1.2198 8955	1.2689 8555	1.3727 8571	1.4845 0562
17	1.0884 8651	1.1843 0443	1.2351 3817	1.2880 2033	1.4002 4142	1.5216 1826
18	1.0939 2894	1.1961 4748	1.2505 7739	1.3073 4064	1.4282 4625	1.5596 5872
19	1.0993 9858	1.2081 0895	1.2662 0961	1.3269 5075	1.4568 1117	1.5986 5019
20	1.1048 9558	1.2201 9004	1.2820 3723	1.3468 5501	1.4859 4740	1.6386 1644
21	1.1104 2006	1.2323 9194	1.2980 6270	1.3670 5783	1.5156 6634	1.6795 8185
22	1.1159 7216	1.2447 1586	1.3142 8848	1.3875 6370	1.5459 7967	1.7215 7140
23	1.1215 5202	1.2571 6302	1.3307 1709	1.4083 7715	1.5768 9926	1.7646 1068
24	1.1271 5978	1.2697 3465	1.3473 5105	1.4295 0281	1.6084 3725	1.8087 2595
25	1.1327 9558	1.2824 3200	1.3641 9294	1.4509 4535	1.6406 0599	1.8539 4410
26	1.1384 5955	1.2952 5631	1.3812 4535	1.4727 0953	1.6734 1811	1.9002 9270
27	1.1441 5185	1.3082 0888	1.3985 1092	1.4948 0018	1.7068 8648	1.9478 0002
28	1.1498 7261	1.3212 9097	1.4159 9230	1.5172 2218	1.7410 2421	1.9964 9502
29	1.1556 2197	1.3345 0388	1.4336 9221	1.5399 8051	1.7758 4469	2.0464 0739
30	1.1614 0008	1.3478 4892	1.4516 1336	1.5630 8022	1.8113 6158	2.0975 6758
31	1.1672 0708	1.3613 2740	1.4697 5853	1.5865 2642	1.8475 8882	2.1500 0677
32	1.1730 4312	1.3749 4068	1.4881 3051	1.6103 2432	1.8845 4059	2.2037 5694
33	1.1789 0833	1.3886 9009	1.5067 3214	1.6344 7918	1.9222 3140	2.2588 5086
34	1.1848 0288	1.4025 7699	1.5255 6629	1.6589 9637	1.9606 7603	2.3153 2213
35	1.1907 2689	1.4166 0276	1.5446 3587	1.6838 8132	1.9998 8955	2.3732 0519
36	1.1966 8052	1.4307 6878	1.5639 4382	1.7091 3954	2.0398 8734	2.4325 3532
37	1.2026 6393	1.4450 7647	1.5834 9312	1.7347 7663	2.0806 8509	2.4933 4870
38	1.2086 7725	1.4595 2724	1.6032 8678	1.7607 9828	2.1222 9879	2.5556 8242
39	1.2147 2063	1.4741 2251	1.6233 2787	1.7872 1025	2.1647 4477	2.6195 7448
40	1.2207 9424	1.4888 6373	1.6436 1946	1.8140 1841	2.2080 3966	2.6850 6384
41	1.2268 9821	1.5037 5237	1.6641 6471	1.8412 2868	2.2522 0046	2.7521 9043
42	1.2330 3270	1.5187 8989	1.6849 6677	1.8688 4712	2.2972 4447	2.8209 9520
43	1.2391 9786	1.5339 7779	1.7060 2885	1.8968 7982	2.3431 8936	2.8915 2008
44	1.2453 9385	1.5493 1757	1.7273 5421	1.9253 3302	2.3900 5314	2.9638 0808
45	1.2516 2082	1.5648 1075	1.7489 4614	1.9542 1301	2.4378 5421	3.0379 0328
46	1.2578 7892	1.5804 5885	1.7708 0797	1.9835 2621	2.4866 1129	3.1138 5086
47	1.2641 6832	1.5962 6344	1.7929 4306	2.0132 7910	2.5363 4351	3.1916 9713
48	1.2704 8916	1.6122 2608	1.8153 5485	2.0434 7829	2.5870 7039	3.2714 8956
49	1.2768 4161	1.6283 4834	1.8380 4679	2.0741 3046	2.6388 1179	3.3532 7680
50	1.2832 2581	1.6446 3182	1.8610 2237	2.1052 4242	2.6915 8803	3.4371 0872
60	1.3488 5015	1.8166 9670	2.1071 8135	2.4432 1978	3.2810 3079	4.3997 8975
70	1.4178 3053	2.0067 6337	2.3858 9997	2.8354 5629	3.9995 5822	5.6321 0286
80	1.4903 3857	2.2167 1522	2.7014 8494	3.2906 6279	4.8754 3916	7.2095 6782
90	1.5665 5468	2.4486 3267	3.0588 1260	3.8189 4851	5.9431 3313	9.2288 5633
100	1.6466 6849	2.7048 1383	3.4634 0427	4.4320 4565	7.2446 4612	11.8137 1635

Amount of 1 (Concluded)

n	3%	3½%	4%	5%	6%	7%
1	1.0300 0000	1.0350 0000	1.0400 0000	1.0500 0000	1.0600 0000	1.0700 0000
2	1.0609 0000	1.0712 2500	1.0816 0000	1.1025 0000	1.1236 0000	1.1449 0000
3	1.0927 2700	1.1087 1788	1.1248 6400	1.1576 2500	1.1910 1600	1.2250 4300
4	1.1255 0881	1.1475 2300	1.1698 5856	1.2155 0625	1.2624 7696	1.3107 9601
5	1.1592 7407	1.1876 8631	1.2166 5290	1.2762 8156	1.3382 2558	1.4025 5173
6	1.1940 5230	1.2292 5533	1.2653 1902	1.3400 9564	1.4185 1911	1.5007 3035
7	1.2298 7387	1.2722 7926	1.3159 3178	1.4071 0042	1.5036 3026	1.6057 8148
8	1.2667 7008	1.3168 0904	1.3685 6905	1.4774 5544	1.5938 4807	1.7181 8618
9	1.3047 7318	1.3628 9735	1.4233 1181	1.5513 2822	1.6894 7896	1.8384 5921
10	1.3439 1638	1.4105 9876	1.4802 4428	1.6288 9463	1.7908 4770	1.9671 5136
11	1.3842 3387	1.4599 6972	1.5394 5406	1.7103 3936	1.8982 9856	2.1048 5195
12	1.4257 6089	1.5110 6866	1.6010 3222	1.7958 5633	2.0121 9647	2.2521 9159
13	1.4685 3371	1.5639 5606	1.6650 7351	1.8856 4914	2.1329 2826	2.4098 4500
14	1.5125 8972	1.6186 9452	1.7316 7645	1.9799 3160	2.2609 0396	2.5785 3415
15	1.5579 6742	1.6753 4883	1.8009 4351	2.0789 2818	2.3965 5819	2.7590 3154
16	1.6047 0644	1.7339 8604	1.8729 8125	2.1828 7459	2.5403 5168	2.9521 6375
17	1.6528 4763	1.7946 7555	1.9479 0050	2.2920 1832	2.6927 7279	3.1588 1521
18	1.7024 3306	1.8574 8920	2.0258 1652	2.4066 1923	2.8543 3915	3.3799 3228
19	1.7535 0605	1.9225 0132	2.1068 4918	2.5269 5020	3.0255 9950	3.6165 2754
20	1.8061 1123	1.9897 8886	2.1911 2314	2.6532 9771	3.2071 3547	3.8696 8446
21	1.8602 9457	2.0594 3147	2.2787 6807	2.7859 6259	3.3995 6360	4.1405 6237
22	1.9161 0341	2.1315 1158	2.3699 1879	2.9252 6072	3.6035 3742	4.4304 0174
23	1.9735 8651	2.2061 1448	2.4647 1554	3.0715 2376	3.8197 4966	4.7405 2986
24	2.0327 9411	2.2833 2849	2.5633 0416	3.2250 9994	4.0489 3464	5.0723 6695
25	2.0937 7793	2.3632 4498	2.6658 3633	3.3863 5494	4.2918 7072	5.4274 3264
26	2.1565 9127	2.4459 5856	2.7724 6978	3.5556 7269	4.5493 8296	5.8073 5292
27	2.2212 8901	2.5315 6711	2.8833 6858	3.7334 5632	4.8223 4594	6.2138 6763
28	2.2879 2768	2.6201 7196	2.9987 0332	3.9201 2914	5.1116 8670	6.6488 3836
29	2.3565 6551	2.7118 7798	3.1186 5145	4.1161 3560	5.4183 8790	7.1142 5705
30	2.4272 6247	2.8067 9370	3.2433 9751	4.3219 4238	5.7434 9117	7.6122 5504
31	2.5000 8035	2.9050 3148	3.3731 3341	4.5380 3949	6.0881 0064	8.1451 1290
32	2.5750 8276	3.0067 0759	3.5080 5875	4.7649 4147	6.4533 8668	8.7152 7080
33	2.6523 3524	3.1119 4235	3.6483 8110	5.0031 8854	6.8405 8988	9.3253 3975
34	2.7319 0530	3.2208 6033	3.7943 1634	5.2533 4797	7.2510 2528	9.9781 1354
35	2.8138 6245	3.3335 9045	3.9460 8899	5.5160 1537	7.6860 8679	10.6765 8148
36	2.8982 7833	3.4502 6611	4.1039 3255	5.7918 1614	8.1472 5200	11.4239 4219
37	2.9852 2668	3.5710 2543	4.2680 8986	6.0814 0694	8.6360 8712	12.2236 1814
38	3.0747 8348	3.6960 1132	4.4388 1345	6.3854 7729	9.1542 5235	13.0792 7141
39	3.1670 2698	3.8253 7171	4.6163 6599	6.7047 5115	9.7035 0749	13.9948 2041
40	3.2620 3779	3.9592 5972	4.8010 2063	7.0399 8871	10.2857 1794	14.9744 5784
41	3.3598 9893	4.0978 3381	4.9930 6145	7.3919 8815	10.9028 6101	16.0226 6989
42	3.4606 9589	4.2412 5799	5.1927 8391	7.7615 8756	11.5570 3267	17.1442 5678
43	3.5645 1677	4.3897 0202	5.4004 9527	8.1496 6693	12.2504 5463	18.3443 5475
44	3.6714 5227	4.5433 4160	5.6165 1508	8.5571 5028	12.9854 8191	19.6284 5959
45	3.7815 9584	4.7023 5855	5.8411 7568	8.9850 0779	13.7646 1083	21.0024 5176
46	3.8950 4372	4.8669 4110	6.0748 2271	9.4342 5818	14.5904 8748	22.4726 2338
47	4.0118 9503	5.0372 8404	6.3178 1562	9.9059 7109	15.4659 1673	24.0457 0702
48	4.1322 5188	5.2135 8898	6.5705 2824	10.4012 6965	16.3938 7173	25.7289 0651
49	4.2562 1944	5.3960 6459	6.8333 4937	10.9213 3313	17.3775 0403	27.5299 2997
50	4.3839 0602	5.5849 2686	7.1066 8335	11.4673 9979	18.4201 5427	29.4570 2506
60	5.8916 0310	7.8780 9090	10.5196 2741	18.6791 8589	32.9876 9085	57.9464 2683
70	7.9178 2191	11.1128 2526	15.5716 1835	30.4264 2554	59.0759 3018	113.9893 9220
80	10.6408 9056	15.6757 3754	23.0497 9907	49.5614 4107	105.7959 9348	224.2343 8758
90	14.3004 6711	22.1121 7595	34.1193 3334	80.7303 6505	189.4645 1123	441.1029 7988
100	19.2186 3198	31.1914 0798	50.5049 4818	131.5012 5785	339.3020 8351	867.7163 2557

Present Value of 1

n	½%	1%	1¼%	1½%	2%	2½%
1	0.9950 2488	0.9900 9901	0.9876 5432	0.9852 2167	0.9803 9216	0.9756 0976
2	0.9900 7450	0.9802 9605	0.9754 6106	0.9706 6175	0.9611 6878	0.9518 1440
3	0.9851 4876	0.9705 9015	0.9634 1833	0.9563 1699	0.9423 2233	0.9285 9941
4	0.9802 4752	0.9609 8034	0.9515 2428	0.9421 8423	0.9238 4543	0.9059 5064
5	0.9753 7067	0.9514 6569	0.9397 7706	0.9282 6033	0.9057 3081	0.8838 5429
6	0.9705 1808	0.9420 4524	0.9281 7488	0.9145 4219	0.8879 7138	0.8622 9687
7	0.9656 8963	0.9327 1805	0.9167 1593	0.9010 2679	0.8705 6018	0.8412 6524
8	0.9608 8520	0.9234 8322	0.9053 9845	0.8877 1112	0.8534 9037	0.8207 4657
9	0.9561 0468	0.9143 3982	0.8942 2069	0.8745 9224	0.8367 5527	0.8007 2836
10	0.9513 4794	0.9052 8695	0.8831 8093	0.8616 6723	0.8203 4830	0.7811 9840
11	0.9466 1489	0.8963 2372	0.8722 7746	0.8489 3323	0.8042 6304	0.7621 4478
12	0.9419 0534	0.8874 4923	0.8615 0860	0.8363 8742	0.7884 9318	0.7435 5589
13	0.9372 1924	0.8786 6260	0.8508 7269	0.8240 2702	0.7730 3253	0.7254 2038
14	0.9325 5646	0.8699 6297	0.8403 6809	0.8118 4928	0.7578 7502	0.7077 2720
15	0.9279 1688	0.8613 4947	0.8299 9318	0.7998 5150	0.7430 1473	0.6904 6556
16	0.9233 0037	0.8528 2126	0.8197 4635	0.7880 3104	0.7284 4581	0.6736 2493
17	0.9187 0684	0.8443 7749	0.8096 2602	0.7763 8526	0.7141 6256	0.6571 9506
18	0.9141 3616	0.8360 1731	0.7996 3064	0.7649 1159	0.7001 5937	0.6411 6591
19	0.9095 8822	0.8277 3992	0.7897 5866	0.7536 0747	0.6864 3076	0.6255 2772
20	0.9050 6290	0.8195 4447	0.7800 0855	0.7424 7042	0.6729 7133	0.6102 7094
21	0.9005 6010	0.8114 3017	0.7703 7881	0.7314 9795	0.6597 7582	0.5953 8629
22	0.8960 7971	0.8033 9621	0.7608 6796	0.7206 8763	0.6468 3904	0.5808 6467
23	0.8916 2160	0.7954 4179	0.7514 7453	0.7100 3708	0.6341 5592	0.5666 9724
24	0.8871 8567	0.7875 6613	0.7421 9707	0.6995 4392	0.6217 2149	0.5528 7535
25	0.8827 7181	0.7797 6844	0.7330 3414	0.6892 0583	0.6095 3087	0.5393 9059
26	0.8783 7991	0.7720 4796	0.7239 8434	0.6790 2052	0.5975 7928	0.5262 3472
27	0.8740 0986	0.7644 0392	0.7150 4626	0.6689 8574	0.5858 6204	0.5133 9973
28	0.8696 6155	0.7568 3557	0.7062 1853	0.6590 9925	0.5743 7455	0.5008 7778
29	0.8653 3488	0.7493 4215	0.6974 9978	0.6493 5887	0.5631 1231	0.4886 6125
30	0.8610 2973	0.7419 2292	0.6888 8867	0.6397 6243	0.5520 7089	0.4767 4269
31	0.8567 4600	0.7345 7715	0.6803 8387	0.6303 0781	0.5412 4597	0.4651 1481
32	0.8524 8358	0.7273 0411	0.6719 8407	0.6209 9292	0.5306 3330	0.4537 7055
33	0.8482 4237	0.7201 0307	0.6636 8797	0.6118 1568	0.5202 2873	0.4427 0298
34	0.8440 2226	0.7129 7334	0.6554 9429	0.6027 7407	0.5100 2817	0.4319 0534
35	0.8398 2314	0.7059 1420	0.6474 0177	0.5938 6608	0.5000 2761	0.4213 7107
36	0.8356 4492	0.6989 2495	0.6394 0916	0.5850 8974	0.4902 2315	0.4110 9372
37	0.8314 8748	0.6920 0490	0.6315 1522	0.5764 4309	0.4806 1093	0.4010 6705
38	0.8273 5073	0.6851 5337	0.6237 1873	0.5679 2423	0.4711 8719	0.3912 8492
39	0.8232 3455	0.6783 6967	0.6160 1850	0.5595 3126	0.4619 4822	0.3817 4139
40	0.8191 3886	0.6716 5314	0.6084 1334	0.5512 6232	0.4528 9042	0.3724 3062
41	0.8150 6354	0.6650 0311	0.6009 0206	0.5431 1559	0.4440 1021	0.3633 4695
42	0.8110 0850	0.6584 1892	0.5934 8352	0 5350 8925	0.4353 0413	0.3544 8483
43	0.8069 7363	0.6518 9992	0.5861 5656	0.5271 8153	0.4267 6875	0.3458 3886
44	0.8029 5884	0.6454 4546	0.5789 2006	0.5193 9067	0.4184 0074	0.3374 0376
45	0.7989 6402	0.6390 5492	0.5717 7290	0.5117 1494	0.4101 9680	0.3291 7440
46	0.7949 8907	0.6327 2764	0.5647 1397	0.5041 5265	0.4021 5373	0.3211 4576
47	0.7910 3390	0.6264 6301	0.5577 4219	0.4967 0212	0.3942 6836	0.3133 1294
48	0.7870 9841	0.6202 6041	0.5508 5649	0.4893 6170	0.3865 3761	0.3056 7116
49	0.7831 8250	0.6141 1921	0.5440 5579	0.4821 2975	0.3789 5844	0.2982 1576
50	0.7792 8607	0.6080 3882	0.5373 3905	0.4750 0468	0.3715 2788	0.2909 4221
60	0.7413 7220	0.5504 4962	0.4745 6760	0.4092 9597	0.3047 8227	0.2272 8359
70	0.7053 0291	0.4983 1486	0.4191 2905	0.3526 7692	0.2500 2761	0.1775 5358
80	0.6709 8847	0.4511 1794	0.3701 6679	0.3038 9015	0.2051 0973	0.1387 0457
90	0.6383 4350	0.4083 9119	0.3269 2425	0.2618 5218	0.1682 6142	0.1083 5579
100	0.6072 8678	0.3697 1121	0.2887 3326	0.2256 2944	0.1380 3297	0.0846 4737

Present Value of 1 (Concluded)

n	3%	3½%	4%	5%	6%	7%
1	0.9708 7379	0.9661 8357	0.9615 3846	0.9523 8095	0.9433 9623	0.9345 7944
2	0.9425 9591	0.9335 1070	0.9245 5621	0.9070 2948	0.8899 9644	0.8734 3873
3	0.9151 4166	0.9019 4271	0.8889 9636	0.8638 3760	0.8396 1928	0.8162 9788
4	0.8884 8705	0.8714 4223	0.8548 0419	0.8227 0247	0.7920 9366	0.7628 9521
5	0.8626 0878	0.8419 7317	0.8219 2711	0.7835 2617	0.7472 5817	0.7129 8618
6	0.8374 8426	0.8135 0064	0.7903 1453	0.7462 1540	0.7049 6054	0.6663 4222
7	0.8130 9151	0.7859 9096	0.7599 1781	0.7106 8133	0.6650 5711	0.6227 4974
8	0.7894 0923	0.7594 1156	0.7306 9021	0.6768 3936	0.6274 1237	0.5820 0910
9	0.7664 1673	0.7337 3097	0.7025 8674	0.6446 0892	0.5918 9846	0.5439 3374
10	0.7440 9391	0.7089 1881	0.6755 6417	0.6139 1325	0.5583 9478	0.5083 4929
11	0.7224 2128	0.6849 4571	0.6495 8093	0.5846 7929	0.5267 8753	0.4750 9280
12	0.7013 7988	0.6617 8330	0.6245 9705	0.5568 3742	0.4969 6936	0.4440 1196
13	0.6809 5134	0.6394 0415	0.6005 7409	0.5303 2135	0.4688 3902	0.4149 6445
14	0.6611 1781	0.6177 8179	0.5774 7508	0.5050 6795	0.4423 0096	0.3878 1724
15	0.6418 6195	0.5968 9062	0.5552 6450	0.4810 1710	0.4172 6506	0.3624 4602
16	0.6231 6694	0.5767 0591	0.5339 0818	0.4581 1152	0.3936 4628	0.3387 3460
17	0.6050 1645	0.5572 0378	0.5133 7325	0.4362 9669	0.3713 6442	0.3165 7439
18	0.5873 9461	0.5383 6114	0.4936 2812	0.4155 2065	0.3503 4379	0.2958 6392
19	0.5702 8603	0.5201 5569	0.4746 4242	0.3957 3396	0.3305 1301	0.2765 0832
20	0.5536 7575	0.5025 6588	0.4563 8695	0.3768 8948	0.3118 0473	0.2584 1900
21	0.5375 4928	0.4855 7090	0.4388 3360	0.3589 4236	0.2941 5540	0.2415 1309
22	0.5218 9250	0.4691 5063	0.4219 5539	0.3418 4987	0.2775 0510	0.2257 1317
23	0.5066 9175	0.4532 8563	0.4057 2633	0.3255 7131	0.2617 9726	0.2109 4688
24	0.4919 3374	0.4379 5713	0.3901 2147	0.3100 6791	0.2469 7855	0.1971 4662
25	0.4776 0557	0.4231 4699	0.3751 1680	0.2953 0277	0.2329 9863	0.1842 4918
26	0.4636 9473	0.4088 3767	0.3606 8923	0.2812 4073	0.2198 1003	0.1721 9549
27	0.4501 8906	0.3950 1224	0.3468 1657	0.2678 4832	0.2073 6795	0.1609 3037
28	0.4370 7675	0.3816 5434	0.3334 7747	0.2550 9364	0.1956 3014	0.1504 0221
29	0.4243 4636	0.3687 4815	0.3206 5141	0.2429 4632	0.1845 5674	0.1405 6282
30	0.4119 8676	0.3562 7841	0.3083 1867	0.2313 7745	0.1741 1013	0.1313 6712
31	0.3999 8715	0.3442 3035	0.2964 6026	0.2203 5947	0.1642 5484	0.1227 7301
32	0.3883 3703	0.3325 8971	0.2850 5794	0.2098 6617	0.1549 5740	0.1147 4113
33	0.3770 2625	0.3213 4271	0.2740 9417	0.1998 7254	0.1461 8622	0.1072 3470
34	0.3660 4490	0.3104 7605	0.2635 5209	0.1903 5480	0.1379 1153	0.1002 1934
35	0.3553 8340	0.2999 7686	0.2534 1547	0.1812 9029	0.1301 0522	0.0936 6294
36	0.3450 3243	0.2898 3272	0.2436 6872	0.1726 5741	0.1227 4077	0.0875 3546
37	0.3349 8294	0.2800 3161	0.2342 9685	0.1644 3563	0.1157 9318	0.0818 0884
38	0.3252 2615	0.2705 6194	0.2252 8543	0.1566 0536	0.1092 3885	0.0764 5686
39	0.3157 5355	0.2614 1250	0.2166 2061	0.1491 4797	0.1030 5552	0.0714 5501
40	0.3065 5684	0.2525 7247	0.2082 8904	0.1420 4568	0.0972 2219	0.0667 8038
41	0.2976 2800	0.2440 3137	0.2002 7793	0.1352 8160	0.0917 1905	0.0624 1157
42	0.2889 5922	0.2357 7910	0.1925 7493	0.1288 3962	0.0865 2740	0.0583 2857
43	0.2805 4294	0.2278 0590	0.1851 6820	0.1227 0440	0.0816 2962	0.0545 1268
44	0.2723 7178	0.2201 0231	0.1780 4635	0.1168 6133	0.0770 0908	0.0509 4643
45	0.2644 3862	0.2126 5924	0.1711 9841	0.1112 9651	0.0726 5007	0.0476 1349
46	0.2567 3653	0.2054 6787	0.1646 1386	0.1059 9668	0.0685 3781	0.0444 9859
47	0.2492 5876	0.1985 1968	0.1582 8256	0.1009 4921	0.0646 5831	0.0415 8747
48	0.2419 9880	0.1918 0645	0.1521 9476	0.0961 4211	0.0609 9840	0.0388 6679
49	0.2349 5029	0.1853 2024	0.1463 4112	0.0915 6391	0.0575 4566	0.0363 2410
50	0.2281 0708	0.1790 5337	0.1407 1262	0.0872 0373	0.0542 8836	0.0339 4776
60	0.1697 3309	0.1269 3431	0.0950 6040	0.0535 3552	0.0303 1434	0.0172 5732
70	0.1262 9736	0.0899 8612	0.0642 1940	0.0328 6617	0.0169 2737	0.0087 7275
80	0.0939 7710	0.0637 9285	0.0433 8433	0.0201 7698	0.0094 5215	0.0044 5962
90	0.0699 2779	0.0452 2395	0.0293 0890	0.0123 8691	0.0052 7803	0.0022 6704
100	0.0520 3284	0.0320 6011	0.0198 0004	0.0076 0049	0.0029 4723	0.0011 5245

Amount of Annuity of 1

n	½%	1%	1¼%	1½%	2%	2½%
1	1.0000 0000	1.0000 0000	1.0000 0000	1.0000 0000	1.0000 0000	1.0000 0000
2	2.0050 0000	2.0100 0000	2.0125 0000	2.0150 0000	2.0200 0000	2.0250 0000
3	3.0150 2500	3.0301 0000	3.0376 5625	3.0452 2500	3.0604 0000	3.0756 2500
4	4.0301 0013	4.0604 0100	4.0756 2695	4.0909 0338	4.1216 0800	4.1525 1563
5	5.0502 5063	5.1010 0501	5.1265 7229	5.1522 6693	5.2040 4016	5.2563 2852
6	6.0755 0188	6.1520 1506	6.1906 5444	6.2295 5093	6.3081 2096	6.3877 3673
7	7.1058 7939	7.2135 3521	7.2680 3762	7.3229 9419	7.4342 8338	7.5474 3015
8	8.1414 0879	8.2856 7056	8.3588 8809	8.4328 3911	8.5829 6905	8.7361 1590
9	9.1821 1583	9.3685 2727	9.4633 7420	9.5593 3169	9.7546 2843	9.9545 1880
10	10.2280 2641	10.4622 1254	10.5816 6637	10.7027 2167	10.9497 2100	11.2033 8177
11	11.2791 6654	11.5668 3467	11.7139 3720	11.8632 6249	12.1687 1542	12.4834 6631
12	12.3355 6237	12.6825 0301	12.8603 6142	13.0412 1143	13.4120 8973	13.7955 5297
13	13.3972 4018	13.8093 2804	14.0211 1594	14.2368 2960	14.6803 3152	15.1404 4179
14	14.4642 2639	14.9474 2132	15.1963 7988	15.4503 8205	15.9739 3815	16.5189 5284
15	15.5365 4752	16.0968 9554	16.3863 3463	16.6821 3778	17.2934 1692	17.9319 2666
16	16.6142 3026	17.2578 6449	17.5911 6382	17.9323 6984	18.6392 8525	19.3802 2483
17	17.6973 0141	18.4304 4314	18.8110 5336	19.2013 5539	20.0120 7096	20.8647 3045
18	18.7857 8791	19.6147 4757	20.0461 9153	20.4893 7572	21.4123 1238	22.3863 4871
19	19.8797 1685	20.8108 9504	21.2967 6893	21.7967 1636	22.8405 5863	23.9460 0743
20	20.9791 1544	22.0190 0399	22.5629 7854	23.1236 6710	24.2973 6980	25.5446 5761
21	22.0840 1101	23.2391 9403	23.8450 1577	24.4705 2211	25.7833 1719	27.1832 7405
22	23.1944 3107	24.4715 8598	25.1430 7847	25.8375 7994	27.2989 8354	28.8628 5590
23	24.3104 0322	25.7163 0183	26.4573 6695	27.2251 4364	28.8449 6321	30.5844 2730
24	25.4319 5524	26.9734 6485	27.7880 8403	28.6335 2080	30.4218 6247	32.3490 3798
25	26.5591 1502	28.2431 9950	29.1354 3508	30.0630 2361	32.0302 9972	34.1577 6393
26	27.6919 1059	29.5256 3150	30.4996 2802	31.5139 6896	33.6709 0572	36.0117 0803
27	28.8303 7015	30.8208 8781	31.8808 7337	32.9866 7850	35.3443 2383	37.9120 0073
28	29.9745 2200	32.1290 9669	33.2793 8429	34.4814 7867	37.0512 1031	39.8598 0075
29	31.1243 9461	33.4503 8766	34.6953 7659	35.9987 0085	38.7922 3451	41.8562 9577
30	32.2800 1658	34.7848 9153	36.1290 6880	37.5386 8137	40.5680 7921	43.9027 0316
31	33.4414 1666	36.1327 4045	37.5806 8216	39.1017 6159	42.3794 4079	46.0002 7074
32	34.6086 2375	37.4940 6785	39.0504 4069	40.6882 8801	44.2270 2961	48.1502 7751
33	35.7816 6686	38.8690 0853	40.5385 7120	42.2986 1233	46.1115 7020	50.3540 3445
34	36.9605 7520	40.2576 9862	42.0453 0334	43.9330 9152	48.0338 0160	52.6128 8531
35	38.1453 7807	41.6602 7560	43.5708 6963	45.5920 8789	49.9944 7763	54.9282 0744
36	39.3361 0496	43.0768 7836	45.1155 0550	47.2759 6921	51.9943 6719	57.3014 1263
37	40.5327 8549	44.5076 4714	46.6794 4932	48.9851 0874	54.0342 5453	59.7339 4794
38	41.7354 4942	45.9527 2361	48.2926 4243	50.7198 8538	56.1149 3962	62.2272 9664
39	42.9441 2666	47.4122 5085	49.8862 2921	52.4806 8366	58.2372 3841	64.7829 7906
40	44.1588 4730	48.8863 7336	51.4895 5708	54.2678 9391	60.4019 8318	67.4025 5354
41	45.3796 4153	50.3752 3709	53.1331 7654	56.0819 1232	62.6100 2284	70.0876 1737
42	46.6065 3974	51.8789 8946	54.7973 4125	57.9231 4100	64.8622 2330	72.8398 0781
43	47.8395 7244	53.3977 7936	56.4823 0801	59.7919 8812	67.1594 6777	75.6608 0300
44	49.0787 7030	54.9317 5715	58.1883 3687	61.6888 6794	69.5026 5712	78.5523 2308
45	50.3241 6415	56.4810 7472	59.9156 9108	63.6142 0096	71.8927 1027	81.5161 3116
46	51.5757 8497	58.0458 8547	61.6646 3721	65.5684 1398	74.3305 6447	84.5540 3443
47	52.8336 6390	59.6263 4432	63.4354 4518	67.5519 4018	76.8171 7576	87.6678 8530
48	54.0978 3222	61.2226 0777	65.2283 8824	69.5652 1929	79.3535 1927	90.8595 8243
49	55.3683 2138	62.8348 3385	67.0437 4310	71.6086 9758	81.9405 8966	94.1310 7199
50	56.6451 6299	64.4631 8218	68.8817 8989	73.6828 2804	84.5794 0145	97.4843 4879
60	69.7700 3051	81.6696 6986	88.5745 0776	96.2146 5171	114.0515 3942	135.9915 8995
70	83.5661 0549	100.6763 3684	110.8719 9776	122.3637 5295	149.9779 1114	185.2841 1421
80	98.0677 1357	121.6715 2172	136.1187 9526	152.7108 5247	193.7719 5780	248.3827 1265
90	113.3109 3580	144.8632 6746	164.7050 0762	187.9299 0038	247.1566 5632	329.1542 5328
100	129.3336 9842	170.4813 8294	197.0723 4200	228.8030 4330	312.2323 0591	432.5486 5404

Amount of Annuity of 1 (Concluded)

n	3%	3½%	4%	5%	6%	7%
1	1.0000 0000	1.0000 0000	1.0000 0000	1.0000 0000	1.0000 0000	1.0000 0000
2	2.0300 0000	2.0350 0000	2.0400 0000	2.0500 0000	2.0600 0000	2.0700 0000
3	3.0909 0000	3.1062 2500	3.1216 0000	3.1525 0000	3.1836 0000	3.2149 0000
4	4.1836 2700	4.2149 4288	4.2464 6400	4.3101 2500	4.3746 1600	4.4399 4300
5	5.3091 3581	5.3624 6588	5.4163 2256	5.5256 3125	5.6370 9296	5.7507 3901
6	6.4684 0988	6.5501 5218	6.6329 7546	6.8019 1281	6.9753 1854	7.1532 9074
7	7.6624 6218	7.7794 0751	7.8982 9448	8.1420 0845	8.3938 3765	8.6540 2109
8	8.8923 3605	9.0516 8677	9.2142 2626	9.5491 0888	9.8974 6791	10.2598 0257
9	10.1591 0613	10.3684 9581	10.5827 9531	11.0265 6432	11.4913 1598	11.9779 8875
10	11.4638 7931	11.7313 9316	12.0061 0712	12.5778 9254	13.1807 9494	13.8164 4796
11	12.8077 9569	13.1419 9192	13.4863 5141	14.2067 8716	14.9716 4264	15.7835 9932
12	14.1920 2956	14.6019 6164	15.0258 0546	15.9171 2652	16.8699 4120	17.8884 5127
13	15.6177 9045	16.1130 3030	16.6268 3768	17.7129 8285	18.8821 3767	20.1406 4286
14	17.0863 2416	17.6769 8636	18.2919 1119	19.5986 3199	21.0150 6593	22.5504 8786
15	18.5989 1389	19.2956 8088	20.0235 8764	21.5785 6359	23.2759 6988	25.1290 2201
16	20.1568 8130	20.9710 2971	21.8245 3114	23.6574 9177	25.6725 2808	27.8880 5355
17	21.7615 8774	22.7050 1575	23.6975 1239	25.8403 6636	28.2128 7976	30.8402 1730
18	23.4144 3537	24.4996 9130	25.6454 1288	28.1323 8467	30.9056 5255	33.9990 3251
19	25.1168 6844	26.3571 8050	27.6712 2940	30.5390 0391	33.7599 9170	37.3789 6479
20	26.8703 7449	28.2796 8181	29.7780 7858	33.0659 5410	36.7855 9120	40.9954 9232
21	28.6764 8572	30.2694 7068	31.9692 0172	35.7192 5181	39.9927 2668	44.8651 7678
22	30.5367 8030	32.3289 0215	34.2479 6979	38.5052 1440	43.3922 9028	49.0057 3916
23	32.4528 8370	34.4604 1373	36.6178 8858	41.4304 7512	46.9958 2769	53.4361 4090
24	34.4264 7022	36.6665 2821	39.0826 0412	44.5019 9887	50.8155 7735	58.1766 7076
25	36.4592 6432	38.9498 5669	41.6459 0829	47.7270 9882	54.8645 1200	63.2490 3772
26	38.5530 4225	41.3131 0168	44.3117 4462	51.1134 5376	59.1563 8272	68.6764 7036
27	40.7096 3352	43.7590 6024	47.0842 1440	54.6691 2645	63.7057 6568	74.4838 2328
28	42.9309 2252	46.2906 2734	49.9675 8298	58.4025 8277	68.5281 1162	80.6976 9091
29	45.2188 5020	48.9107 9930	52.9662 8630	62.3227 1191	73.6397 9832	87.3465 2927
30	47.5754 1571	51.6226 7728	56.0849 3775	66.4388 4750	79.0581 8622	94.4607 8632
31	50.0026 7818	54.4294 7098	59.3283 3526	70.7607 8988	84.8016 7739	102.0730 4137
32	52.5027 5852	57.3345 0247	62.7014 6867	75.2988 2937	90.8897 7803	110.2181 5426
33	55.0778 4128	60.3412 1005	66.2095 2742	80.0637 7084	97.3431 6471	118.9334 2506
34	57.7301 7652	63.4531 5240	69.8579 0851	85.0669 5938	104.1837 5460	128.2587 6481
35	60.4620 8181	66.6740 1274	73.6522 2486	90.3203 0735	111.4347 7987	138.2368 7835
36	63.2759 4427	70.0076 0318	77.5983 1385	95.8363 2272	119.1208 6666	148.9134 5984
37	66.1742 2259	73.4578 6930	81.7022 4640	101.6281 3886	127.2681 1866	160.3374 0202
38	69.1594 4927	77.0288 9472	85.9703 3626	107.7095 4580	135.9042 0578	172.5610 2017
39	72.2342 3275	80.7249 0604	90.4091 4971	114.0950 2309	145.0584 5813	185.6402 9158
40	75.4012 5973	84.5502 7775	95.0255 1570	120.7997 7424	154.7619 6562	199.6351 1199
41	78.6632 9753	88.5095 3747	99.8265 3633	127.8397 6295	165.0476 8356	214.6095 6983
42	82.0231 9645	92.6073 7128	104.8195 9778	135.2317 5110	175.9505 4457	230.6322 3972
43	85.4838 9234	96.8486 2928	110.0123 8169	142.9933 3866	187.5075 7724	247.7764 9650
44	89.0484 0911	101.2383 3130	115.4128 7696	151.1430 0559	199.7580 3188	266.1208 5125
45	92.7198 6139	105.7816 7290	121.0293 9204	159.7001 5587	212.7435 1379	285.7493 1084
46	96.5014 5723	110.4840 3145	126.8705 6772	168.6851 6366	226.5081 2462	306.7517 6260
47	100.3965 0095	115.3509 7255	132.9453 9043	178.1194 2185	241.0986 1210	329.2243 8598
48	104.4083 9598	120.3882 5659	139.2632 0604	188.0253 9294	256.5645 2882	353.2700 9300
49	108.5406 4785	125.6018 4557	145.8337 3429	198.4266 6259	272.9584 0055	378.9989 9951
50	112.7968 6729	130.9979 1016	152.6670 8366	209.3479 9572	290.3359 0458	406.5289 2947
60	163.0534 3680	196.5168 8288	237.9906 8520	353.5837 1788	533.1281 8089	813.5203 8335
70	230.5940 6374	288.9378 6459	364.2904 5876	588.5285 1071	967.9321 6965	1614.1341 7425
80	321.3630 1855	419.3067 8685	551.2449 7675	971.2288 2134	1746.5998 9137	3189.0626 7969
90	443.3489 0365	603.2050 2701	827.9833 3354	1594.6073 0098	3141.0751 8718	6287.1854 2679
100	607.2877 3270	862.6116 5666	1237.6237 0461	2610.0251 5693	5638.3680 5857	12381.6617 9381

Present Value of Annuity of 1

n	½%	1%	1¼%	1½%	2%	2½%
1	0.9950 2488	0.9900 9901	0.9876 5432	0.9852 2167	0.9803 9216	0.9756 0976
2	1.9850 9938	1.9703 9506	1.9631 1538	1.9558 8342	1.9415 6094	1.9274 2415
3	2.9702 4814	2.9409 8521	2.9265 3371	2.9122 0042	2.8838 8327	2.8560 2356
4	3.9504 9566	3.9019 6555	3.8780 5798	3.8543 8465	3.8077 2870	3.7619 7421
5	4.9258 6633	4.8534 3124	4.8178 3504	4.7826 4497	4.7134 5951	4.6458 2850
6	5.8963 8441	5.7954 7647	5.7460 0992	5.6971 8717	5.6014 3089	5.5081 2536
7	6.8620 7404	6.7281 9453	6.6627 2585	6.5982 1396	6.4719 9107	6.3493 9060
8	7.8229 5924	7.6516 7775	7.5681 2429	7.4859 2508	7.3254 8144	7.1701 3717
9	8.7790 6392	8.5660 1758	8.4623 4498	8.3605 1732	8.1622 3671	7.9708 6553
10	9.7304 1186	9.4713 0453	9.3455 2591	9.2221 8455	8.9825 8501	8.7520 6393
11	10.6770 2673	10.3676 2825	10.2178 0337	10.0711 1779	9.7868 4805	9.5142 0871
12	11.6189 3207	11.2550 7747	11.0793 1197	10.9075 0521	10.5753 4122	10.2577 6460
13	12.5561 5131	12.1337 4007	11.9301 8466	11.7315 3222	11.3483 7375	10.9831 8497
14	13.4887 0777	13.0037 0304	12.7705 5275	12.5433 8150	12.1062 4877	11.6909 1217
15	14.4166 2465	13.8650 5252	13.6005 4592	13.3432 3301	12.8492 6350	12.3813 7773
16	15.3399 2502	14.7178 7378	14.4202 9227	14.1312 6405	13.5777 0931	13.0550 0266
17	16.2586 3186	15.5622 5127	15.2299 1829	14.9076 4931	14.2918 7188	13.7121 9772
18	17.1727 6802	16.3982 6858	16.0295 4893	15.6725 6089	14.9920 3125	14.3533 6363
19	18.0823 5624	17.2260 0850	16.8193 0759	16.4261 6837	15.6784 6201	14.9788 9134
20	18.9874 1915	18.0455 5297	17.5993 1613	17.1686 3879	16.3514 3334	15.5891 6229
21	19.8879 7925	18.8569 8313	18.3696 9495	17.9001 3673	17.0112 0916	16.1845 4857
22	20.7840 5896	19.6603 7934	19.1305 6291	18.6208 2437	17.6580 4820	16.7654 1324
23	21.6756 8055	20.4558 2113	19.8820 3744	19.3308 6145	18.2922 0412	17.3321 1048
24	22.5628 6622	21.2433 8726	20.6242 3451	20.0304 0537	18.9139 2560	17.8849 8583
25	23.4456 3803	22.0231 5570	21.3572 6865	20.7196 1120	19.5234 5647	18.4243 7642
26	24.3240 1794	22.7952 0366	22.0812 5299	21.3986 3172	20.1210 3576	18.9506 1114
27	25.1980 2780	23.5596 0759	22.7962 9925	22.0676 1746	20.7068 9780	19.4640 1087
28	26.0676 8936	24.3164 4316	23.5025 1778	22.7267 1671	21.2812 7236	19.9648 8866
29	26.9330 2423	25.0657 8530	24.2000 1756	23.3760 7558	21.8443 8466	20.4535 4991
30	27.7940 5397	25.8077 0822	24.8889 0623	24.0158 3801	22.3964 5555	20.9302 9259
31	28.6507 9997	26.5422 8537	25.5692 9010	24.6461 4582	22.9377 0152	21.3954 0741
32	29.5032 8355	27.2695 8947	26.2412 7418	25.2671 3874	23.4683 3482	21.8491 7796
33	30.3515 2592	27.9896 9255	26.9049 6215	25.8789 5442	23.9885 6355	22.2918 8094
34	31.1955 4818	28.7026 6589	27.5604 5644	26.4817 2849	24.4985 9172	22.7237 8628
35	32.0353 7132	29.4085 8009	28.2078 5822	27.0755 9458	24.9986 1933	23.1451 5734
36	32.8710 1624	30.1075 0504	28.8472 6737	27.6606 8431	25.4888 4248	23.5562 5107
37	33.7025 0372	30.7995 0994	29.4787 8259	28.2371 2740	25.9694 5341	23.9573 1812
38	34.5298 5445	31.4846 6330	30.1025 0133	28.8050 5163	26.4406 4060	24.3486 0304
39	35.3530 8900	32.1630 3298	30.7185 1983	29.3645 8288	26.9025 8883	24.7303 4443
40	36.1722 2786	32.8346 8611	31.3269 3316	29.9158 4520	27.3554 7924	25.1027 7505
41	36.9872 9141	33.4996 8922	31.9278 3522	30.4589 6079	27.7994 8945	25.4661 2200
42	37.7982 9991	34.1581 0814	32.5213 1874	30.9940 5004	28.2347 9358	25.8206 0683
43	38.6052 7354	34.8100 0806	33.1074 7530	31.5212 3157	28.6615 6233	26.1664 4569
44	39.4082 3238	35.4554 5352	33.6863 9536	32.0406 2223	29.0799 6307	26.5038 4945
45	40.2071 9640	36.0945 0844	34.2581 6825	32.5523 3718	29.4901 5987	26.8330 2386
46	41.0021 8547	36.7272 3608	34.8228 8222	33.0564 8983	29.8923 1360	27.1541 6962
47	41.7932 1937	37.3536 9909	35.3806 2442	33.5531 9195	30.2865 8196	27.4674 8255
48	42.5803 1778	37.9739 5949	35.9314 8091	34.0425 5365	30.6731 1957	27.7731 5371
49	43.3635 0028	38.5880 7871	36.4755 3670	34.5246 8339	31.0520 7801	28.0713 6947
50	44.1427 8635	39.1961 1753	37.0128 7574	34.9996 8807	31.4236 0589	28.3623 1168
60	51.7255 6075	44.9550 3841	42.0345 9179	39.3802 6889	34.7608 8668	30.9086 5649
70	58.9394 1756	50.1685 1435	46.4696 7562	43.1548 7183	37.4986 1929	32.8978 5698
80	65.8023 0538	54.8882 0611	50.3866 5706	46.4073 2349	39.7445 1359	34.4518 1722
90	72.3312 9958	59.1608 8148	53.8460 6035	49.2098 5452	41.5869 2916	35.6657 6848
100	78.5426 4477	63.0288 7877	56.9013 3936	51.6247 0367	43.0983 5164	36.6141 0526

Present Value of Annuity of 1 (Concluded)

n	3%	3½%	4%	5%	6%	7%
1	0.9708 7379	0.9661 8357	0.9615 3846	0.9523 8095	0.9433 9623	0.9345 7944
2	1.9134 6970	1.8996 9428	1.8860 9467	1.8594 1043	1.8333 9267	1.8080 1817
3	2.8286 1135	2.8016 3698	2.7750 9103	2.7232 4803	2.6730 1195	2.6243 1604
4	3.7170 9840	3.6730 7921	3.6298 9522	3.5459 5050	3.4651 0561	3.3872 1126
5	4.5797 0719	4.5150 5238	4.4518 2233	4.3294 7667	4.2123 6379	4.1001 9744
6	5.4171 9144	5.3285 5302	5.2421 3686	5.0756 9206	4.9173 2433	4.7665 3966
7	6.2302 8296	6.1145 4398	6.0020 5467	5.7863 7340	5.5823 8144	5.3892 8940
8	7.0196 9219	6.8739 5554	6.7327 4487	6.4632 1276	6.2097 9381	5.9712 9851
9	7.7861 0892	7.6076 8651	7.4353 3161	7.1078 2168	6.8016 9227	6.5152 3225
10	8.5302 0284	8.3166 0532	8.1108 9578	7.7217 3493	7.3600 8705	7.0235 8154
11	9.2526 2411	9.0015 5104	8.7604 7671	8.3064 1422	7.8868 7458	7.4986 7434
12	9.9540 0399	9.6633 3433	9.3850 7376	8.8632 5164	8.3838 4394	7.9426 8630
13	10.6349 5533	10.3027 3849	9.9856 4785	9.3935 7299	8.8526 8296	8.3576 5074
14	11.2960 7314	10.9205 2028	10.5631 2293	9.8986 4094	9.2949 8393	8.7454 6799
15	11.9379 3509	11.5174 1090	11.1183 8743	10.3796 5804	9.7122 4899	9.1079 1401
16	12.5611 0203	12.0941 1681	11.6522 9561	10.8377 6956	10.1058 9527	9.4466 4860
17	13.1661 1847	12.6513 2059	12.1656 6885	11.2740 6625	10.4772 5969	9.7632 2299
18	13.7535 1308	13.1896 8173	12.6592 9697	11.6895 8690	10.8276 0348	10.0590 8691
19	14.3237 9911	13.7098 3742	13.1339 3940	12.0853 2086	11.1581 1649	10.3355 9524
20	14.8774 7486	14.2124 0330	13.5903 2634	12.4622 1034	11.4699 2122	10.5940 1425
21	15.4150 2414	14.6979 7420	14.0291 5995	12.8211 5271	11.7640 7662	10.8355 2733
22	15.9369 1664	15.1671 2484	14.4511 1533	13.1630 0258	12.0415 8172	11.0612 4050
23	16.4436 0839	15.6204 1047	14.8568 4167	13.4885 7388	12.3033 7898	11.2721 8738
24	16.9355 4212	16.0583 6760	15.2469 6314	13.7986 4179	12.5503 5753	11.4693 3400
25	17.4131 4769	16.4815 1459	15.6220 7994	14.0939 4457	12.7833 5616	11.6535 8318
26	17.8768 4242	16.8903 5226	15.9827 6918	14.3751 8530	13.0031 6619	11.8257 7867
27	18.3270 3147	17.2853 6451	16.3295 8575	14.6430 3362	13.2105 3414	11.9867 0904
28	18.7641 0823	17.6670 1885	16.6630 6322	14.8981 2726	13.4061 6428	12.1371 1125
29	19.1884 5459	18.0357 6700	16.9837 1463	15.1410 7358	13.5907 2102	12.2776 7407
30	19.6004 4135	18.3920 4541	17.2920 3330	15.3724 5103	13.7648 3115	12.4090 4118
31	20.0004 2849	18.7362 7576	17.5884 9356	15.5928 1050	13.9290 8599	12.5318 1419
32	20.3887 6553	19.0688 6547	17.8735 5150	15.8026 7667	14.0840 4339	12.6465 5532
33	20.7657 9178	19.3902 0818	18.1476 4567	16.0025 4921	14.2302 2961	12.7537 9002
34	21.1318 3668	19.7006 8423	18.4111 9776	16.1929 0401	14.3681 4114	12.8540 0936
35	21.4872 2007	20.0006 6110	18.6646 1323	16.3741 9429	14.4982 4636	12.9476 7230
36	21.8322 5250	20.2904 9381	18.9082 8195	16.5468 5171	14.6209 8713	13.0352 0776
37	22.1672 3544	20.5705 2542	19.1425 7880	16.7112 8734	14.7367 8031	13.1170 1660
38	22.4924 6159	20.8410 8736	19.3678 6423	16.8678 9271	14.8460 1916	13.1934 7345
39	22.8082 1513	21.1024 9987	19.5844 8484	17.0170 4067	14.9490 7468	13.2649 2846
40	23.1147 7197	21.3550 7234	19.7927 7388	17.1590 8635	15.0462 9687	13.3317 0884
41	23.4123 9997	21.5991 0371	19.9930 5181	17.2943 6796	15.1380 1592	13.3941 2041
42	23.7013 5920	21.8348 8281	20.1856 2674	17.4232 0758	15.2245 4332	13.4524 4898
43	23.9819 0213	22.0626 8870	20.3707 9494	17.5459 1198	15.3061 7294	13.5069 6167
44	24.2542 7392	22.2827 9102	20.5488 4129	17.6627 7331	15.3831 8202	13.5579 0810
45	24.5187 1254	22.4954 5026	20.7200 3970	17.7740 6982	15.4558 3209	13.6055 2159
46	24.7754 4907	22.7009 1813	20.8846 5356	17.8800 6650	15.5243 6990	13.6500 2018
47	25.0247 0783	22.8994 3780	21.0429 3612	17.9810 1571	15.5890 2821	13.6916 0764
48	25.2667 0664	23.0912 4425	21.1951 3088	18.0771 5782	15.6500 2661	13.7304 7443
49	25.5016 5693	23.2765 6450	21.3414 7200	18.1687 2173	15.7075 7227	13.7667 9853
50	25.7297 6401	23.4556 1787	21.4821 8462	18.2559 2546	15.7618 6064	13.8007 4629
60	27.6755 6367	24.9447 3412	22.6234 8997	18.9292 8952	16.1614 2771	14.0391 8115
70	29.1234 2135	26.0003 9664	23.3945 1498	19.3426 7665	16.3845 4387	14.1603 8934
80	30.2007 6345	26.7487 7567	23.9153 9185	19.5964 6048	16.5091 3077	14.2220 0544
90	31.0024 0714	27.2793 1564	24.2672 7759	19.7522 6174	16.5786 9944	14.2533 2794
100	31.5989 0534	27.6554 2540	24.5049 9900	19.8479 1020	16.6175 4623	14.2692 5071

Index

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F

I

(Continued from front flap)

terial applicable to the subject matter of each chapter

- incorporates a wide assortment of searching correlated problems ranging from easy to challenging and from short to moderately long
- utilizes generally accepted contemporary terminology

Thoroughly professional in its approach, this presentation gives special and discerning attention to such important subjects as partnerships, branches, installment sales, and insurance. It also offers a lucid, detailed analysis of estates and trusts, compound interest and annuities, with their accounting applications and foreign exchange.

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